

00069US1.ST25
SEQUENCE LISTING

<110> Wood, Linda
Vogeli, Gabriel
Karnovsky, Alla
Linske-O'Connell, Lisa I.
Wang, Jun
Liu, Derong

<120> Human Ion Channels

<130> 00069US1

<150> 60/188,517

<151> 2000-03-10

<160> 117

<170> PatentIn version 3.0

<210> 1

<211> 574

<212> DNA

<213> Homo sapiens

<400> 1

```
ccctcctccc tggccccggg tgccctttct cctcctgaag tgggaggagc catactgatg      60
aggggggtgc cactggcagg ggagcaagtc attcatcatg agcaggaaga cgttgtagcc      120
cagcagaagt gttatcttga atggggcacg attctcgtc tctgctggca ggtagaagct      180
gagggcacat atggcaacca gaaagctact gggcaccagc aggtttatga tgtagaggct      240
tggcctgctc ctgatggcca cctggagaga gaccggagaa gatggcaaataaatagatgt      300
cagagggtct aatttgtata tctgaccctt aatctttgcc aatgtgctgt gaggctgctg      360
gggacgatct ttttaagtaa cacttttgca tataattgtg ctgcctaca taggggcctc      420
tgatttggtg tctaattttt attcattttt aacctactag gaacacaatg actgtagaat      480
tttaggtgca agtgggacct ttaagtcatt ctgagcagta ggggtgagct gatccattct      540
gagcagcagg gcttattaca gtccagccat tcct                                574
```

<210> 2

<211> 463

<212> DNA

<213> Homo sapiens

<400> 2

```
agaagaaaac agtgactggt cccaagtaag tctgaaaccc aacaggagga aacaacatga      60
aatgttacgg cttgagaata atcattggct caatgttctg ccctccaggc ccactaaggt      120
gatagtgcc ccttcaggac acaatgtggt agcagccctg ccctgtggct ttgggtggcc      180
```

00069US1.ST25

ttgcccctga ggcagccatg tgcttgtgcc ttgctcctgc ctccacagta gctctgtgcc 240
 tgggtcatgc atctgagget ctccctggaaa ccaccactgg tgactctact ggtctggact 300
 catgggccta gtggggggccc tctgtagtgg cccttcccca acagtgattc tccgtctcag 360
 ccccatggct ctcttggggc atccttttaa ttctggggga aggcagccat gccccacat 420
 ctttctactc aagggcccgat gatgggatgg gtagctgtga tga 463

<210> 3
 <211> 377
 <212> DNA
 <213> Homo sapiens

<400> 3
 tatactatac ataaaacaat tagagaacaa ctaagtgcta aattaagttt tctggcaatg 60
 gtttctgatt atatatattgt ttgattttta aggtatacat gcatgtagtt tcagagttag 120
 aaggcaaagt agttctataa accttgtaac aaaaatagca attcttgagg cctgcatcat 180
 cttagggttca gcttttcaga ggcaacaactt taaattgttt cagctggtaa tgttctagga 240
 ctgtacctcc atatctctat aacacagatg tatggttttt ttttattagg cattatccat 300
 ggacttttca ttatgaaaga tgaagatttc tgccctaacc ccacaccct actccccacc 360
 acacacaatt gtcttct 377

<210> 4
 <211> 588
 <212> DNA
 <213> Homo sapiens

<400> 4
 ccggccttcc cgtgccctca cagtcctcct cctcagctgt ttcagctaaa gtcccaggat 60
 taatgcttat tggctggctt gggcctgaac tgaactccct gaactgaggc tagcaggatg 120
 aaatgctcta atcagccaga tgtgagtcac tcaccccctc ctggagcctg gggctgggga 180
 cctgtgggtg tcaaccctgc caagtgacct ggacagaaca cagaggagca gaaactcccc 240
 agagggaac tgaggaggtg ggggtggagg gacacagagc cagcagggcc accggaagga 300
 ggcccttgca tttctgcaca tccaccagc caggaggaga cagctaggcc caggggttgc 360
 ggcagtgcgt gcaaggcgtt ttcttgagg agaggctggt gtttacaggg gacaggaaat 420
 gtgggtgaac tcagccgttt tctttgcggg ggcagaatgt acaggctgat acagtgaacc 480
 cagaagctgc tgggtccccc tgtgggggtt tgtggcagtg aagacccccg tctgcccccc 540
 tgcacagctc cttgggcttc caaatatttt gtctgtgctg acagcttt 588

<210> 5
 <211> 186
 <212> DNA
 <213> Homo sapiens

<400> 5
 cctttcatca attccttgaac attccttaggc tttatgtttc aaatattgcc tcttctcttt 60
 ttcttttact tttgggaaac tcccattatg tatatgatgg actttcttat tctgtctttc 120
 ctatcttttt ccatattttc cactttttat attgggtctcc tttttcttag aatttctcaa 180
 atctct 186

<210> 6
 <211> 269
 <212> DNA
 <213> Homo sapiens

<400> 6
 tctgtgtgtt tacccagggg actgccgcat ggcccatgcc gagcagaaac tgatggacga 60
 ccttctgaac aaaacctgtt acaacaacct ggatccgccc agccaccagc tcctcacagc 120
 tcctctccat ccagacggcg ctctccctgg ccagtgcat cagcgtggta ggtgcagagg 180
 gtacctgtgg ctccaggtca ggtgaagagg cagctcatgc ccaagcccta agcagtcaat 240
 gtccagagga atgaaatgac tagagttga 269

<210> 7
 <211> 637
 <212> DNA
 <213> Homo sapiens

<400> 7
 cccttgtgat tcagacatct gccctgggac ccacagtagg ttccgagggg gacgttcagc 60
 ctggggctggc ctggggatag cctaaagtgg gggtgccatg ggaggggctg agtgcttggc 120
 agcttagaag ggtcctgggg aaaagcttcc agggcagcgt ggcaaccagg ttatgtggta 180
 gggagagggg atcactacac cccacagct aagggaagt ctagagaggg gtaagagaga 240
 ggagggggcc agataggcag tacttggttat agagtacgat gtctggccgc cacacaagac 300
 tgctggggat gcggatggca tccaggccac cataggcatt ggggtcccat cgtaggtagg 360
 catctgtcca ctctgccgt atccacagat acagggtcag cacctgggtc cgttcacatc 420
 agtgggggca gggaaatggca gagatgtgga catgtatatg catatcctgc cctgtctgtg 480
 cacactcccc tgcagggctc tgggtcagcac ccacaaacct gacttgtcca taccgtccag 540
 ttcccaccca gacctgacct tgccatgtga ccttagtggg ctcttctctt ttctgcccgt 600
 ttctcagca ggaatatggg gtgagaatcc ctgctta 637

<210> 8
 <211> 640
 <212> DNA
 <213> Homo sapiens

<400> 8
 cctcttagtt tgtaatcagc caccctatTTt tttttttttt ccaaaagcaa attgttcttt 60
 gcaagaacaa ttctattgac ttcaaattac tcttgctata ggtcctttcg aagtatcgtc 120
 atgacatgta cacacagact tgagggaaaa aagtgcTTTT ctgaaaaagt aatgattgaa 180
 atttttattt taaatgattc cttagattga attcacttta gattaacaga ttttcctgcc 240
 caattgattt tctggcatcc atgcagtgat ccagcagaga taaaatgggg gttcatttag 300
 tccatggctc caaggaaaag tgagagcctg gcaaagagag ccagcaaagc ttctttcttg 360
 cctgctcggg tggagcagga caactggagc cggtcagctg ctgaccagat gctgccttca 420
 attaatatTC caaccctcaa agacatttat cgcttactct cgaaagcaga gcagctgagt 480
 aataaaggga accactaaag ctgttttttt ttcaagagca tttataatgg ctaaattgct 540
 tgaaataaat tagcacgaaa aataaacata gtttgtacag tatctgtaaa acaaatttcc 600
 aatcttgga aaatagagcg acaaagtggg agcttgcaTT 640

<210> 9
 <211> 573
 <212> DNA
 <213> Homo sapiens

<400> 9
 caagtgcagg ccaatatatt ggtgtggtcc taactccaag tggTTTTagg ccatatttaa 60
 tatctgtctg ccaaaaggct atcaaggggt acttttctg tgacaccttg ttaaataaag 120
 aatgggggga taggctgtgg ttattagggt cacaaatggg agtgggagga tcaaggTTta 180
 aagaagaatg gaaagggTgg gagaggccga caggacaagc tcaccgtcac tcacctctgt 240
 ccctcactgc cctgatgcag gtatgggaca atcctttcat taattggaac ccaaaagagt 300
 gtgttggcat caataaactc acagtattag ctgaaaacct gtggctccca gacatcttca 360
 tcgtggaatc gtgcgtatgc aggctgggga agccagcgtg aaacctcatc tgccgagaac 420
 agcctagggt cagcacaggg catggggcca ccgaaagatt cagacaggca cacagtctca 480
 acgaactgac ttccacacat cactacgagt agaagaggcg agagagtgac attaaagaaa 540
 gagcccaggg ccaggcgcgg tggctcacgc ctg 573

<210> 10

<211> 716
 <212> DNA
 <213> Homo sapiens

<400> 10
 caattatata cctgtgtctt taatcoctga gagcagaatg atgaatatatt gagccccagt 60
 atatcatata tacatgtaat taatttttaa aaggtagttc aatattcaaa tttattgcaa 120
 agtggccaag aacagtgcga gtgttgacga cttataaata gaactacatt gactatttac 180
 attaggttct tgaggattga aataacattc ttctgttttt cctaataaat gacaggctta 240
 tatacataga cttgagttaa aaattgacca atattaactg ccatgagccc gtggtgaaca 300
 aattattgct gtcactcaaa acacaataat taatagatta attactagga tttacaaaaa 360
 tggctttttg aagatctatt tttaatgttc ttttctgtta aaagcagctt acacaagttt 420
 cctaaatcta tactgccact aatgatagta ccacagcatc ttagtataaa atttctggag 480
 tttgaatgtt tgccccctcc aaaattcacg ttgaaattta attgtcattg taaaagtatt 540
 aagatatgag acctttaaga ggtgattagg ccaccagta ttatgggtgg aattaatgcc 600
 attatgaaag aatgaatttg gttccctttt tcctctgtgt cctttggcca tgtaatgaga 660
 caacaagaaa gcccttgtca gatgtcacca ttctttatat tggactttcc agcctt 716

<210> 11
 <211> 630
 <212> DNA
 <213> Homo sapiens

<400> 11
 cttcttattc ttggacttta taaatatttg aaccatcaca tgtataagtt caggccatat 60
 gttaaataaga cattgtacat acttgattgg tttattattg cctattgctt tctccctatc 120
 aattccccca aaatcagtgt tatgcagatt tactgtatta aactacaatt ccattccttc 180
 atcctttata gccatataaa ttatatttct gagagtagct aatatatgct gtgattcctt 240
 aaagtcaata taccacagtc tgatccaatc taggcagaaa gatatagtggt gtc aaaatttg 300
 gaatttaaaa catagggctt cttcaggttt atttaagctt gctaaaaaat caaagcctac 360
 caagctagtt agtctttctg tgtcacactt gctaccaatg gaagttctcc cttttcagaa 420
 gtaatagagg tccacacagt tgtctggaag aaaattgatc ttgcaagtac atcatgtcta 480
 ttcaacacca aatttactag gttcaacatg gagcattcaa tcagagtgtg tgtctataag 540
 aaccaagctc acgttcatgt gattattctg gttgggcca tgagttgctt ggggctctgt 600
 aggaagatt tacagcaaag tagtaaggct 630

<210> 12
 <211> 619
 <212> DNA
 <213> Homo sapiens

<400> 12
 atcagctgaa ggatcaaagt cacaattact agctgtgagt gtgccaagct aaccatttag 60
 caccatgcc acaagcatgc tctgtgctac tcagcatcat gtacacattc tcagaagtga 120
 cacaagttga catcagaagt gttttgtatt tcagatttag ggatttttca ttatagttat 180
 cagttgagca tctcaaatcc tgaaaatcca aaacactcca atgagcattt cctttgagtg 240
 tcacattggt actcaaagaa tttcagattt tggagcattt tggattttca ggtttgcat 300
 gtacattagt ccacgttcac actgttaca agacataccc aagactgggt aatttataaa 360
 gaaaagaggt ttaaatgact cacagttcca catggctggt gaggccacag gaaacttaca 420
 atcatggcga aaagcacctc ttcacagggc agcaggagac agaaggggta ggagcaaagg 480
 gggaggagcc cttataaaaa ccatcagatc tcctgagaac tccctcgta tcacaagaac 540
 agcatggggg aaatcacccc catgatcca tctcctagga ttctactgga tccagcactg 600
 tccaatagat tttttttt 619

<210> 13
 <211> 448
 <212> DNA
 <213> Homo sapiens

<400> 13
 gaccatttag gtggctatgg tcataatcat gaaagcttgg acacagtggg ggtgggtgcag 60
 gtgatgaggt ttggagcaaa ggatgacgtg atctgactga ggcttaatag gatcattctg 120
 gtttctgggg atgagaaagt aaaatttgta gatattttga agcattttct gttggcctga 180
 atggcaggag tatgtgtgga aaaggaagaa ggaatccata gacttgctat ttgagtttag 240
 aaaaggtttt ggcctcatca aggtatactc ggtcactggg cgtgtgaaaa aagatggccg 300
 agggagaatt cctagaaggg gaaaataggg agggaggaca tgggaggata acagactcct 360
 aaatacatgt ggttgagttc attggttggt catatggaaa ttaccctac ctcaaaccat 420
 cacacaaatg atgaatttaa gatatcag 448

<210> 14
 <211> 547
 <212> DNA
 <213> Homo sapiens

<400> 14
 actcctgaaa tctagcccg gaccctgagc cattcaactc aagcagcccc tgagactaac 60

```

atagggagct gcctggagac ttcccacagt attcattctg agaggaagct cacacagggc 120
cctagacagc tcctaaatcc taagcagcta caggaaggca ccattttgag aacacagccc 180
ctatcatact gtattctgct ggagggccca atagcccctg tatcttcaca tccctggagc 240
cccattgaca ttctccacct ttattcacca ccgcagctgg ctctgctgcc aaggccaaaa 300
tgcaagccat tgtcagtaac ccagctgcct ccagtagcag ggccactgtg catttaaagg 360
catcccaaaa aaaggctatc tcaattatag cagccacctg aggccaaaat gtgtgctccc 420
cagccacctt actgttgcca ctgaaagcaa ccctgccctc cctagcagca gggtcctggc 480
acagctgctg ctgctcccac ccaggcattc tgccaatggc ctgggatcac tacattccgg 540
gctacca 547

```

```

<210> 15
<211> 700
<212> DNA
<213> Homo sapiens

```

```

<400> 15
ctgggcaagc tttaaagttt gggattttcc actgtccttt ccggtgcgag catttattga 60
atattgcagt agtctccata atttactgag gagctacagg aggagaaaca gaaaacagtt 120
aggatatgcc atgctttcca agaggaaactg gcaactgcag tgaggatgca tttaaacaaa 180
ccagtgtgag gatagatctc tctacgttat gcagatccac tccattttcta aaagcaagtt 240
gaacagcaaa tttcagttga tgggaaccta tatttgatta ttttaaaata ggaaaacagt 300
gattacattt ataacagtgt aaaattggta atgtattatt tataattatt ataatcatgt 360
gtttccaatc caccaaaaga atatgtacca atttggccaa ctatcactaa aatactctta 420
actctatagt aaatcaacaa ggttttattc aagctaatta caaccccccc cctttttttt 480
tttttagcac ttgcaaact ttaggactgt gcttgtgtgt ggtatacaca ttgaaataaa 540
cagggtaatt tattgtattc taacaatggc tccttctctc ctccctcccta tggaggaatc 600
cccggcaagg aggagtgaaa gggctctatga gtgctgcaaa gagccctacc ccgatgtcac 660
ctttcacagt gaccatgcgc cgcaggacgc tctactatgg 700

```

```

<210> 16
<211> 567
<212> DNA
<213> Homo sapiens

```

```

<400> 16
cagcgcatcg tcagggtcccc ccgcgcccc gctgctcacc gatgagcggc acgctctcgg 60

```

00069US1.ST25

ccggtggcat gctctcggcc agcagcaact gggaagacgg tgagcgccag cagcacggtg 120
 acgcccagcg acaccttctc gcctgagtcg gcaggcaggt ggaaggcgag cggcgcaagc 180
 agcgagatga gcacgcaggg cagcagcagg ttgcacacgt agggcgggcg cgcggcggcg 240
 cagcagcagc gtgaagggtga cgtcggggta gggctcggag cagcagccgt aggtgagcac 300
 gcgcccgcgc gccggcatgc ccagcacgcg ccactccacg ttctccacga agtccgccag 360
 gctggctgca gcgcccgcgc gccgcacatc cagttgggtg ccgccgtgag tccaggagcc 420
 gaacgtcagg ccgcagtgtt gggcgtcgaa cgggaaggct gctacatcca cgcggcacga 480
 gctgcgcgtg atggccggcg cgttcccagc gcacggcgcc atcgtggcg caggaccagt 540
 tgggtgctggc ggaacctgga ggctgcg 567

<210> 17

<211> 507

<212> DNA

<213> Homo sapiens

<400> 17

cctcccctag cacttgacct ttattaaactc aggtaagcat caccacaaac ctaggaagta 60
 ggtcctcttg gtatcccatt tgtacaaaaa gggattcgta tcttgcccca gctcatgccc 120
 gtcgttattt gagagcggga ctgtcctgga ttgtgtatga gtgcagcctc cagcagtgc 180
 gggagcaatt agagagcagt agcttctgat gaccacgtg taggaatgaa ggatggggag 240
 aactcggccc ttacctcctt cctgcttcca tccatggggc ttggagggtc tggagagctt 300
 catggtgggc ttatttccat ttgtgcagag gtggctggga agctcaggaa ccacaggctt 360
 ttgttttgag tcaattggct ttctctctct cttgcaggga agtactactg gccactatga 420
 ccatggtcac attctcaaca gcactcacca tccttatcat gaacctgcat tactgtggtc 480
 ccagtgtccg cccagtgccg gcctggg 507

<210> 18

<211> 446

<212> DNA

<213> Homo sapiens

<400> 18

agggccggct ggctctcaag ctgttccgtg acctctttgc caactacaca agtgcctga 60
 gacctgtggc agacacagac cagactctga atgtgaccct ggaggtgaca ctgtcccaga 120
 tcatcgacat ggtgcgttgt ggtgggtgga cagctgtgga gtcttacctg tcacagtgtc 180
 aagaaatgaa ggggtgagag actgggatta ttctccatgg aattttcttt ctgtaaagt 240
 taatattaac aaaggtagca gttacaaact gttgggtact gactgttggg tactgagtat 300

tgggtgccta cctcgtgccc aatattttgt tcacctgaac ttactgaatc cctgctaagc 360
 aggggattct caccocatat tcctgctgag gaaacgggca gaaaagagaa gagcccacta 420
 aggtcacatg gcaagggtcag gtctgg 446

<210> 19
 <211> 588
 <212> PRT
 <213> Homo sapiens

<400> 19

Cys Ala Gly Thr Gly Gly Gly Ala Thr Thr Thr Ala Gly Ala Ala Thr
 1 5 10 15
 Cys Cys Cys Thr Gly Gly Gly Thr Gly Ala Ala Ala Gly Thr Cys Thr
 20 25 30
 Gly Gly Ala Cys Thr Cys Thr Thr Gly Thr Gly Gly Cys Thr Thr Ala
 35 40 45
 Thr Thr Thr Gly Gly Gly Cys Cys Cys Cys Thr Cys Thr Ala Gly Cys
 50 55 60
 Ala Thr Thr Thr Gly Thr Gly Gly Ala Gly Ala Gly Gly Cys Ala Gly
 65 70 75 80
 Gly Cys Ala Gly Ala Cys Thr Cys Cys Ala Gly Gly Thr Cys Cys Thr
 85 90 95
 Thr Gly Ala Ala Ala Ala Gly Gly Gly Gly Ala Gly Gly Gly Thr Gly
 100 105 110
 Gly Ala Gly Gly Ala Gly Ala Ala Ala Thr Thr Thr Gly Thr Cys Ala
 115 120 125
 Gly Cys Cys Thr Gly Gly Cys Gly Cys Cys Ala Gly Ala Ala Gly Ala
 130 135 140
 Thr Ala Gly Thr Ala Cys Cys Ala Gly Thr Thr Cys Ala Cys Thr Cys
 145 150 155 160
 Cys Ala Thr Gly Gly Cys Cys Thr Thr Thr Ala Cys Cys Thr Cys Ala
 165 170 175
 Thr Gly Thr Gly Thr Cys Cys Cys Thr Gly Cys Ala Gly Gly Cys Ala
 180 185 190
 Gly Gly Cys Cys Ala Gly Gly Gly Ala Gly Gly Ala Ala Cys Thr Ala
 195 200 205
 Gly Ala Gly Cys Cys Ala Cys Ala Gly Cys Thr Ala Gly Ala Gly Cys
 210 215 220
 Ala Ala Gly Ala Gly Ala Ala Gly Gly Cys Ala Gly Ala Cys Ala Cys
 225 230 235 240

Cys Ala Gly Gly Ala Gly Gly Ala Cys Ala Cys Thr Cys Ala Thr Ala
245 250 255

Ala Gly Gly Ala Cys Ala Gly Gly Gly Cys Cys Cys Cys Ala Gly Cys
260 265 270

Cys Cys Thr Gly Gly Gly Ala Gly Thr Gly Gly Ala Gly Gly Gly Thr
275 280 285

Gly Thr Gly Ala Gly Cys Ala Gly Ala Gly Gly Cys Cys Cys Thr Gly
290 295 300

Gly Gly Ala Cys Thr Ala Gly Gly Gly Cys Cys Thr Gly Gly Gly Ala
305 310 315 320

Thr Gly Gly Ala Cys Ala Ala Cys Cys Cys Thr Cys Cys Thr Thr Ala
325 330 335

Cys Thr Gly Ala Cys Cys Cys Thr Cys Cys Ala Gly Ala Gly Thr Gly
340 345 350

Cys Cys Thr Gly Gly Gly Ala Gly Cys Thr Gly Ala Gly Gly Gly Cys
355 360 365

Cys Gly Gly Cys Thr Gly Gly Cys Thr Cys Thr Cys Ala Ala Gly Cys
370 375 380

Thr Gly Thr Thr Cys Cys Gly Thr Gly Ala Cys Cys Thr Cys Thr Thr
385 390 395 400

Thr Gly Cys Cys Ala Ala Cys Thr Ala Cys Ala Cys Ala Ala Gly Thr
405 410 415

Gly Cys Cys Cys Thr Gly Ala Gly Ala Cys Cys Thr Gly Thr Gly Gly
420 425 430

Cys Ala Gly Ala Cys Ala Cys Ala Gly Ala Cys Cys Ala Gly Ala Cys
435 440 445

Thr Cys Thr Thr Gly Ala Ala Thr Gly Thr Gly Ala Cys Cys Cys Thr
450 455 460

Gly Gly Gly Ala Gly Gly Thr Gly Ala Cys Ala Cys Thr Gly Thr Cys
465 470 475 480

Cys Cys Ala Gly Ala Thr Cys Ala Thr Thr Cys Gly Ala Cys Ala Thr
485 490 495

Gly Gly Thr Gly Cys Gly Thr Thr Gly Thr Gly Gly Thr Gly Gly Gly
500 505 510

Thr Gly Gly Thr Ala Cys Ala Gly Cys Thr Gly Thr Gly Gly Ala Gly
515 520 525

Thr Cys Thr Thr Ala Cys Cys Thr Gly Thr Cys Ala Cys Ala Gly Thr
530 535 540

Gly Thr Cys Ala Ala Gly Ala Ala Ala Thr Gly Ala Ala Ala Gly Gly

545 550 555 560

Gly Gly Thr Gly Ala Gly Ala Gly Ala Cys Thr Gly Gly Gly Ala Thr
 565 570 575

Thr Ala Thr Thr Cys Thr Cys Cys Ala Thr Gly Gly
 580 585

<210> 20
 <211> 525
 <212> DNA
 <213> Homo sapiens

<400> 20
 ttagtgacgc ccattatcca aatctttctaa ctattcaaaa agggaatcct acaaaaataa 60
 ataatgcagt attgttttat tgagttatac ctatatgcc cactactcc accaaagatt 120
 tattattgat ctatccagtc tcacccattt ctctattttt ctatttgtct aataaagcag 180
 tcctcatttg ttcctttgtc tatctgccat ccgtcogtcc ttccttcctt ctttccacag 240
 acttccttct acatccctgc ctctgtcttc cccatcatca gtacatgaca tccttatcta 300
 cccattgttt agacatcatc cctacactca ctgattctac attttaatta tttctcaa 360
 tcatttacct ggtgattttt ctccataagc accctaacc tgacctatga ttcattctta 420
 tactgagagt ctcttcatat tgttttcata ctatttatta caacaataat tataattagt 480
 aactgtgttt aatgtctgtg taccactaaa ctataccaca gctcc 525

<210> 21
 <211> 633
 <212> DNA
 <213> Homo sapiens

<400> 21
 tttaacaataa gcaaaggatga cagcaacca agtgtccact gacaggatga acgggtaaac 60
 aaaacatggt atatacatc aatgggaata ttatttagcc ttaaaaagga aggaaattcc 120
 gacacatgct acaatattat gttaaatacag caagtcacaa aagaacaaat actgtatgat 180
 ttcatttata ttaagtactt agggtagcca aattcataga cacacaagg agcatgggtg 240
 ttgccaggag ctggggggcag ggggaaacgg gagttatcgt ttaatagata ggaagtttca 300
 gtttggaag atggaaaaag ttatggagat gtatgggtgt gacatttgca caacaatata 360
 aatatacgta atgccactaa gctgtatact taaggatggt taaaatagta agtttaatgt 420
 tatatatatt taaccacagt ttttaaaaat ccaactagag ttcatgtatt ctttaagtac 480
 ttctgtactt tctgaaataa aaagatgttc aagcccttct tatattttcc ttgccctact 540
 octgctgcta gccatttctt caagaattct tagttccttt tagtagactc atatttagaa 600

accaagatct ggacactaga catgctcatt gct

633

<210> 22
 <211> 505
 <212> DNA
 <213> Homo sapiens

<400> 22
 cttctgcctc ttttttacat atttctattt ttaaagtttg tgagtcaaag aagttttcac 60
 atatcctaaa tgcttattgg aatatgtata attacatttg gaatgttgat gcatacactt 120
 ctgttttttt gtttttctta gaggaaaagg tgtattttcc tccattgatt tgtgtaaatt 180
 ttttttcaaa agcttaataa gtattttatt ttgtttctgt tcatttttat ggcattagga 240
 caatttaata atattcccag tgtaagaaaa acctottctt tcagtatagc aaaatccaaa 300
 taattgaaaa gattttattt gttttcatgt ggagaaagag gtgagtcctc cgattttatg 360
 aatctcttta gtgcagtagg acattaaatt tgctccctt ttctacttct tgccatcact 420
 aaccaattgc caaatgacac atcttctgt tttgtttccc cagaagctat ctgcattttt 480
 aagagcatct gtatttgtat ctgac 505

<210> 23
 <211> 636
 <212> DNA
 <213> Homo sapiens

<400> 23
 cccacaagtg tcaaaggaaa aacggaataa gaattcattc aataaaacag gccttaaaga 60
 tgaatttttt taaaaaaagg tagaataatg ttaacatgga aagtgaata gagagacaaa 120
 attgagaact aggcaaaaca ttacagagtt accaagttaa ccataaaggg aaaggaatgt 180
 agtaatggca aagagaaaat ccttgagata attactctga attcagaaaa aaaaaaaagg 240
 agacaaggaa taatcacaga gttgatgaaa aagatggaag gcagagatga tacaacatag 300
 gaataattgg tttcctttta ttagggaccc atactaatgg aacagaaata agtttacaga 360
 aaacttttcc ctaaaggaag gaagaaataa actatatatt gaaatgacgt gtggtatata 420
 agaaaaaac tgattgataa agaagaattt acatggaaac ctacttcaa ataaaatctg 480
 aagaccttca attgcctcaa agcccaagg gacacatatg tccattgcct ctgtgacttc 540
 atctcatatt tattcttgga agaactcact cttactggc catgcttata ttcttgctg 600
 tcactcaata tgtcagtgac aataatgccc atggtc 636

<210> 24
 <211> 578

<212> DNA
 <213> Homo sapiens

<400> 24
 atagtcaaac caaaactgta tatgtacttt aactcccatg gtttccatt cattaagcag 60
 aaattgaatg tggaaagggc caaatattct atttttctcc acctaccttc ctttttcagg 120
 gtgattttct ttgagtttgg agaatgggtt ctggaaactg taaaaggcag aaaataatat 180
 ttatttttact agtgctgttc tgtccttcat tggttcccct agctaagatt gactgtcatt 240
 gatatttatg aagttggcat ccaaatgctg actccattgt gcaaaaaaca gagagtttta 300
 agagaacttg taggatagaa attcacttta gtttggaactc tctaaattct ctctcttaa 360
 ctcttgccctg caatagtaca ccacaatttt ccccttcat caggtgacct ctttgcataa 420
 aatattttaa agaagggtt atgcttagca agagtccacg tggcctactt tacatacaaa 480
 aaactcaaag attcttattt tgtcaattct cttttccttc aaaaaaaaaa taatgagagg 540
 aaaagaaatc tggcacctca ttggcagaga tcacctgc 578

<210> 25
 <211> 727
 <212> DNA
 <213> Homo sapiens

<400> 25
 attatgacag ttgatcctca taacaacctc tggagctaca tactgggtgc tgttgttatt 60
 ctcactttac agatgagtaa actgaaggta agaaaagttg agtgccccgc ccagggttgc 120
 aaagcgagga agtgggtggag ctgggattgg gtgtgccaca gtctctttct ttgggcagac 180
 tgaacatgcc taggctccta atgattctgc tatcttcctt cttttccctg agccccgggc 240
 tgtgcaacct gtggccagct ttcttgacgg ggtacatctc aacctaccc catccctgaa 300
 agaaggggca acacgcaaca ccattcact ccctcccaa tgctggcact gtgctggggg 360
 ctgggctgtg atgggtgacg tccctgccct cgcaaaggat actgtgtatg ggcactgcgc 420
 tgtgatgtgt tggctgtcat aggcacacgc aggagggaga cagggtgag gaagtggaga 480
 gagtgagaca ggcaaaggga agcggaaga gtgttccagg tagagggaga gtctgagcag 540
 aggccagag actgaagaga caggcacatc tgagaagctg aaggagatcc agtgggtacg 600
 tgcacagga cgcattgtgg gaggtccctg ggggtgggtt atgaaagggtg ccaaagagac 660
 tgaatggcca cacagagcac actgaagcca ctacagttgc atattcagaa atgcctgagt 720
 tcctgga 727

<210> 26

<211> 721
 <212> DNA
 <213> Homo sapiens

<400> 26
 caaatacatt cagaaaaactc tgtactttaat tcacctcttt aggactcata atacatatta 60
 gcacagtcaa gacactgaga aagtccctgca gtaaataaat gtgggtttatg ttattttaatc 120
 cagtgtttta atattagggc acttttgcta aattactgtg tggtaacgaa taacctcaaa 180
 atcccagtgg cttataacca caaagggtga tttgttgctc atatttcgtg tcagctgtgc 240
 tttggctctg ctccagatgt cttcttcatt tcagatgtag gctaaagggtg cagccttttt 300
 tcaggaatat gccattctta tgataaaggg aaaagagcaa aagccatgcc agacaatgtc 360
 tcctaaagtg tcttgcccaa atgtgtcatg taccggtgtc ctcacattcc attgtccaaa 420
 gcaaatacaca tggacaaggc caatgtcact aaaatggaaa gtcacagagc ctcccacagt 480
 gcagtgtctg cagtcacatg gaaatgcact gtatgtatat aatcctctta gaggaaacga 540
 acaataatgt aataatgaaa tctgccacaa aatacactta tttttacacc aaatcttttt 600
 ttaatttaat taccatatga ttacagcaatt ttactcttaa gtatatattc aaaagaactg 660
 tagacaagca ttcaaagaa aacttgtaat gaatgttcat agcagcacta ttcatagtag 720
 t 721

<210> 27
 <211> 680
 <212> DNA
 <213> Homo sapiens

<400> 27
 atggaatgaa tgaatgaatg cattgaaagc ctacttacct aaaatctcct atatattcaa 60
 atgattaatc aaagatcttt cattcaacaa aatgaactga gtgcatttag aaggcattgt 120
 ggggtgaagg agatgtggcc ccttcctctc tggagcttag agtctgtctc caccattgaa 180
 tctgaaaagc tagccaaata catgagtaaa aaaattaaaa tccaaatctt ttaccaatat 240
 aacatcggat gacatggctg taatgatcaa ataattacct gattctttcc gattcggttt 300
 taaatgttaa acattcagtg atggttaaca tactcgctga tgtgaaaggg tgggggctga 360
 ctcatctactg gggctaggac aagggcaa atcgtggctcag aactgtcatt cagagcctct 420
 tgtttgtcct ctgtagtcag ctcaagtcaca gtaaggatat tggtttctct caacatgtca 480
 ttcttgtttt atgtaotcaa atgtttcctt ctcatgtgca acatctgctc tgaactttta 540
 gtcaggccca cttgtttgta gaatagctca ttgacataaa gcaaataaca catcccagcc 600
 agtcaaatacc aagaaactca gcttttaaaaa cacatttgta ttaaagaatt tcaactgcaa 660

tccattcatt atgtttacct

680

<210> 28
 <211> 331
 <212> PRT
 <213> Homo sapiens

<400> 28

Cys Thr Cys Thr Cys Thr Thr Ala Thr Gly Cys Thr Cys Thr Cys Cys
 1 5 10 15
 Ala Gly Cys Ala Ala Ala Ala Thr Ala Ala Cys Thr Thr Cys Ala Gly
 20 25 30
 Thr Gly Ala Cys Thr Thr Thr Ala Thr Cys Ala Gly Ala Ala Ala Thr
 35 40 45
 Gly Gly Gly Gly Thr Thr Thr Thr Ala Gly Ala Cys Ala Gly Gly Ala
 50 55 60
 Thr Gly Thr Thr Thr Cys Thr Thr Thr Gly Gly Thr Thr Ala Gly Ala
 65 70 75 80
 Thr Thr Thr Gly Gly Thr Ala Thr Cys Ala Thr Gly Thr Gly Thr Cys
 85 90 95
 Thr Thr Ala Gly Gly Thr Ala Thr Thr Thr Ala Thr Ala Thr Cys Thr
 100 105 110
 Thr Thr Ala Thr Cys Cys Cys Thr Thr Ala Ala Cys Cys Ala Thr Ala
 115 120 125
 Cys Ala Cys Ala Thr Ala Cys Thr Thr Thr Ala Cys Thr Thr Gly Gly
 130 135 140
 Gly Gly Thr Ala Ala Cys Cys Thr Thr Ala Gly Thr Ala Ala Ala Thr
 145 150 155 160
 Ala Ala Gly Ala Thr Cys Thr Thr Cys Ala Ala Thr Thr Ala Ala Gly
 165 170 175
 Cys Thr Thr Ala Gly Ala Ala Cys Thr Thr Thr Gly Thr Ala Gly Gly
 180 185 190
 Ala Thr Ala Thr Thr Ala Gly Ala Ala Ala Gly Cys Cys Ala Gly Ala
 195 200 205
 Gly Thr Cys Cys Ala Thr Ala Thr Cys Thr Gly Thr Thr Thr Gly Thr
 210 215 220
 Gly Gly Gly Gly Ala Cys Ala Ala Cys Thr Cys Ala Gly Ala Cys Ala
 225 230 235 240
 Thr Cys Cys Cys Ala Thr Cys Thr Thr Cys Cys Ala Thr Thr Gly Ala
 245 250 255

00069US1.ST25

Cys Thr Ala Thr Ala Thr Thr Thr Thr Thr Gly Ala Gly Thr Gly Ala
260 265 270

Cys Thr Thr Thr Thr Thr Cys Gly Thr Ala Ala Thr Thr Ala Gly Ala
275 280 285

Cys Thr Cys Thr Cys Thr Ala Cys Cys Thr Thr Cys Ala Ala Ala Thr
290 295 300

Thr Cys Ala Gly Cys Thr Thr Cys Thr Gly Thr Gly Gly Gly Ala Thr
305 310 315 320

Cys Ala Thr Thr Gly Ala Thr Thr Ala Ala Ala
325 330

<210> 29

<211> 610

<212> DNA

<213> Homo sapiens

<400> 29

agctgagcag agtctatgca ggcccattgg ctgcctagcc agtgggtgatc ccgctcccac	60
cctcatttct tctttgttaa gaaaaccatg acctcattaa atattggaca cctataaacc	120
tcaggacact tgggtgcagcc tccccgccac gtattggtga gtctaagtca actctggtca	180
tttcattcct ctggacattg attgcttgag gcttgggcat gagctgcctc ttcattctgag	240
cctgagccac aggtgccctc tgcacttacc aactgatgc actgcccag ggagagctct	300
gtctcgatgg agatgagctg tgaggagctg gtggctgggc agatcagggtt gttgtaacgg	360
gttttgttca gaaggtcgtc catcagcttc tgctcagcat gagccatgog gcagtcccct	420
gggtaaacac acagacatgc tgggcccttg tgcagctgtc ccacactgca gatgacagct	480
acaaagcagg agccaagagg gccaggggag cacaggcacc ccggggggccg gctgaagcag	540
tgaaggtgct ggcggaccag gctctccctg gggacttcaa atgacattca tgacagagct	600
cagctacttt	610

<210> 30

<211> 614

<212> DNA

<213> Homo sapiens

<400> 30

tctgcaggcc cattggctgc ctagccagtg gtgatctcgc tcccaccctc atttcttctt	60
tgttaacaaa accatgacct cattaaatac tggacaccta taaacctcat ggacctctct	120
ccagctccc caccgtgtac cggtagctct aagtcaactc tagtcatttc attcctctgg	180
acattgactg cttagggctt gggcatgagc tgcctcttca cctgagcctg agccacaggt	240
acctcttgca cctaccacgc tgatgcactg ggccagggag agcgccgtct ggatggagat	300

00069US1.ST25

gagctgtgag gagctgggtgg ctggggcggat caggttgttg taacaggttt tgttcagaag 360
 gtcgtccatc agtttctgct cggcatgggc catgcggcag tcccctgggt aaacacacag 420
 acatgctggg cccttgtgca gctgtctccc actgcagctg acagctatga agcaggagct 480
 gagagggcca gggagcacag acaccctgag agctggctga agcagtgaag gtgctggccg 540
 gcctggcttt ccctggggac ttcaaatac attcacgaca gagctcagct acctcctccc 600
 catgccatac ctct 614

<210> 31
 <211> 198
 <212> DNA
 <213> Homo sapiens

<400> 31
 ctgtgaggag ctgggtggctg ggcggatcag gttgttgtaa caggttttgt tcaggaagtc 60
 gtccatcagt ttctgctcgg catgggccat gcggcagtc cctgggtaaa cacacagaca 120
 tgctgggccc ttgtgcagct gtctcccact gcagcttgac agctatgaaa gcaggagctg 180
 agagggccag ggagcaca 198

<210> 32
 <211> 540
 <212> DNA
 <213> Homo sapiens

<400> 32
 agctccatct cgatggagat gagctgtgag gagctggcgg ctgggcggga tcaggttgtg 60
 gtaacgggtt ttgttcagaa ggtcgtccat cagcttctgc tcggcagggc catgcggcag 120
 aaccctgcgt aaacacacag gacctgcttg gtccttgtgc agctgtcccc cactgcagct 180
 gacagctatg aagcaggagc tgagagggcc agggagcaca gacaccctga gagctggctg 240
 aagcagtga ggggctggcc ggctggctc tccctgggga cttcaaata cattcatgac 300
 agagctcagc tacctcctcc catgccatac ctcttctcc tctcctccc tcaatcaatg 360
 aacagcatcc cagctctac acatctgata caaaactggg tatctcttcc tgacctctcc 420
 cttggttcat ataagtggcc accaagtcct gtctgtcctc ccatctccac ggctacagcc 480
 atgtccctgc ctccccgcc ctgccacct tctattctct ccacctgcac cctgccctg 540

<210> 33
 <211> 334
 <212> DNA
 <213> Homo sapiens

<400> 33
 agacacccag ttttgtatca gatgtgtaga gogtgggatg ctgttcattg atcgaaggag 60
 gaggaggagg aagaggtgtg gcatgggcgg aagtagctga gctctgtcat gaatgtcatt 120
 tgaagtcccc agggagagcc tggtcgcgcca gcaccttcac tgcttcagcc ggcccccgga 180
 gtgcctgtgc tccctggccc tcttggctcc tgctttgtag ctgtcatctg cagtgtggga 240
 cagctgcaca agggcccagc atgtctgtgt gtttaccagc gggactgccg catggctcat 300
 gctgagcaga agctgatgga cgaccttctg aaca 334

<210> 34
 <211> 680
 <212> DNA
 <213> Homo sapiens

<400> 34
 tcttattttt ccaatgtagt ttctagaacc gttagcacag aaagttataa acattgtata 60
 attattcatc taaatgaatt gtaataataa ctacaaaaaa ttatgtctac tggctgtaac 120
 ataacttagt aattattctg tttgtatgta cttaggtagc ttccagaggt ttatggctaa 180
 atgatctcta ataattattc ttattttcaa atttaaagt caattgctga atatatacat 240
 acaataaagg ctttataact atgtgtatta gtttgctagg aatgtcataa caaaatacca 300
 tagactatgt ggtttaaaca gcagaaatgc atttttctac agcttcaaaa aggctctaag 360
 tctggatatca aggtgttagc aaatttggtt tttcctaagg tctatcttct tttctttcag 420
 atggctgcct tcttctgtg tcctcacatg ggcttttctc tgtgcatatg catcctgtgt 480
 ctatgtccaa attttctttt taaaataatg acccagtcac actgaatgaa ggtccactca 540
 tatgatttca tctaagctta attaccactt tagaggccct atttctaaat atggtcatat 600
 tctgtggaac tgagaattag ctcttcaaca tatgaatttt gggggacaaa attcagcata 660
 tatttcctga tacatagagc 680

<210> 35
 <211> 619
 <212> DNA
 <213> Homo sapiens

<400> 35
 ttcaatctgc aatgtccttg cactgaccag ggctccattt cctttatcag aggctatgat 60
 ggaaatgatg tgggagttca cctggctgag acggaatgac tctgtgcatg ggctggaaac 120
 cctgtggctt gcttagtaca ccatacaatg gtatttcacc ttggacacca gattgcagca 180
 ggagacaggt aactcatgtg acaatttttt tttttaatt tttaccattg ttttcgtaga 240

00069US1.ST25

tattcctagg ccagttctaa gagtttgttt cttgggagat tagtgctgga ggccagaagt 300
 ctgagatcaa ggttggtttt ttctgaggcc tctctccttg gcttggaac agccgttttc 360
 tcggtgtctt cacatggtct tttgctctgt acctgtccaa atttcctttt cttataagga 420
 catcacttgt ataagataag ggttttcccc tcattttaac ttaattacct ctttaaaggc 480
 cctatctcca aacacagtta cattccgagg tactgcagggt cagggcttca gcacatgaat 540
 tttgggcaag gatggagagg gttggaaaca atacaattca ccccgtaaca ccagatctga 600
 ctctctcac tagcctcct 619

<210> 36
 <211> 605
 <212> DNA
 <213> Homo sapiens

<400> 36
 attgcctgct ctggaagcat gcaaagtga ccaaattcag tccaaaggctc tgggagtaaa 60
 ttttagctctg ccacttactt gccttgtgac cttggacaat gatcatctat aaaggagtga 120
 tgagaaatag tactacttct ttgttatatg ttgtgtgtgt gtgttttgcg tgtgcgcgca 180
 tgtgtgggtg cgcgtattta aaaagctaag aaatgcaaaa gggtcaaaag cgctaagcct 240
 gggctcaaga ggtgctcagg gaaagctgat tgtcagtcaa aaagtcaaac ctgcacgttt 300
 cctaccacca cttgctggta gcggtagcgg gcaatgactc ttcggggtct cctgtgtcgc 360
 ctaggctggc gccgaggtcc tcgactgtag aaaagatagt tgatgtagac atactccagc 420
 aaggacagga acacaaagaa caagcacacg aggatataga tatcaatggc cttgatacag 480
 gaaatgttg ggagcttata ccgcagatgt gagtcatgg tggtcaggat gagcattgaa 540
 gttaagcctg taagcaacac agtacagact tagtctctc tgatggctaa cgttcttggc 600
 aacct 605

<210> 37
 <211> 667
 <212> DNA
 <213> Homo sapiens

<400> 37
 aaacattcaa actgtatcag aggccaaggc agttccaggc tgagtgaaca gcagtgtcaa 60
 atactgctca ggtcagagct ggtgtggcca gtgaactggg aaatttaaca tcagaggggg 120
 caatcttgac tttcctcaaa gcattctcag tggagtggta ggagtaggag tgaggtccag 180
 aagatttggg gatgagttag tggctgagat gggaaaacag caagtgtaga aaactcatac 240
 aagtttggtt gtgaagtgac agaaagagta gctagagaag tggaaggatt ttccttagct 300

ggtagagatc cagggatgct ccattgctta tgaggggaca ggaaagaggg gaggggtgaa 360
 gatatgggat gaatgacagg gaagaaagca ttcccaaaca cagaggaggt ccccaaaaat 420
 ggatcctgat acaggtaagt ggaaaggttt gtggcagaat gttgagaaac catccattca 480
 atggcttctg tttagtctct gatatgaaag acaaagtcac ctgccagat ggatgaaaag 540
 atagtgggat agaaaactgg aaaaaaaca aaaaaggga aaaggtttga aatagccttt 600
 gagaagcatg aagagagagc tggaggcttg ctgaactctg ctgagagcca gtggaagctg 660
 gagactg 667

<210> 38
 <211> 518
 <212> DNA
 <213> Homo sapiens

<400> 38
 cttttaaaca cagttgggac actaccatta aagaggaatc ttcatcacta aaagtaagg 60
 aattttgtta gaaaatgcaa atcctaacac aaaaaatcgg atcaaaggta aatcacaat 120
 aatgtttgag gtacaaagaa tctaccactg tgggaaaatt caggccataa taaaccactc 180
 tttacacagg ggatccaatg ggagacattt gaaaaacaga aatacacttt tcttggtgag 240
 caatgttagg tactccagtt tcatcttaac tttgtctttg gttatgggtc tcaagcgctc 300
 ctatttctgt aaacaaacac ataaatattc aaaagagtat ctctaagtaa gttgaggttt 360
 ataaaataga aatttttctt tttaacatac cgaggcttta ttttttagct ttctgtcttt 420
 agtagcagtc tttccttttt ggttgctggg aaaataatgc aagggtccat attccatcaa 480
 gggctgcaaa aacaaaaatg aaacaaacag aaacaaag 518

<210> 39
 <211> 617
 <212> DNA
 <213> Homo sapiens

<400> 39
 ctctatgtag cccaactaa acatgtctgt gggctagatt agccctttgg ccagctggcc 60
 accagttgac catttctgta gacaagattc tcagaaaggc aaccacagcc tcaactttta 120
 caggattatt ttctacctaa agaggcatgt gcataaatgg caggatgcc agcacacctc 180
 attttactgt gtttcacttt attgtacttc acaaattatt cattttttaa caaatggaag 240
 gtttctggca accctgtgtc aagcaaattc atcagtgcc tttgtccaac agcatgcgct 300
 cccttcctgt ctctgggtca cattttggta atttttgcga catttcacag tttctcatta 360

00069US1.ST25

ttattatatac tgttatgggtg atctgtgatac agtgcatttt gatattccta ttctaattgt 420
 ttcagggagc cactaaactgt gccatataa gatggaaaac ttccaataaa tgctgtgtgt 480
 gttctgactg ctcatcactg attggctgtt cctcatctc tcttcttctc ctagggcctc 540
 cctattccct gagagacatc aatactgaaa ttaggccaat caataaccct acaatggcct 600
 ctatgtgttc aagtga 617

<210> 40

<211> 670

<212> DNA

<213> Homo sapiens

<400> 40

tccagctcag aaactaccag ccttcatcaa catgctgagc ttaggggcat ggatatgtgg 60
 agagcaggag cctcagtggg gcccttgtgt cccagtcct ggctggacac tcgctggcc 120
 tggaacacta gtgcacaccc gcggcacgcc atcacgctgc cctgggagtc tctctggaca 180
 ccaaggctca ccatactgga ggcgtaagtg agacagttcc tgccccagga atctgccatg 240
 catagccctc cttttcccca tctacaacct agaggctgtc tgagtgaata tgaccctcct 300
 ggcggtcccc gccggactag cagtgcacct tcaactgcctc gaattccct cccactgcc 360
 gaactctgaa agcagctggg gttgggggtg ggatgccagg gtctcccccc ggccccgtcc 420
 aagaaggggc tggggctctg gctgtgggtg ctttccccac aggcctctggg tggactggag 480
 ggaccagagc cccaggctc gagtagacca ggacggccac gtgaagctca acctggccct 540
 caccacggag accaactgca actttgagct cctccacttc cccggggacc acagcaactg 600
 cagcctcagc ttctacgctc tcagcaacac ggggtgtgac agggcagggg ctgcaggggt 660
 gaggagggga 670

<210> 41

<211> 652

<212> DNA

<213> Homo sapiens

<400> 41

aggccatggc aacctgagcc tctggccttg ctgcaagggg ccgagccact gcagtcgcca 60
 tggctgtgga gggcagttgc tctggggagg acagaagact gatgtgctcg gacctctggg 120
 attgcagagc tgctgcgaat gtttgagtct gtcacctag agagggggccc tgaggctacc 180
 gctgagcaca gagatgggt gccactcgag tggggggcgc agtgggagag caggtgctgc 240
 ccgcctaagc ctggggtaga ctgctctgaa cacagatctg ggagttcgcc ttctgtctgc 300
 ctttgccct tcccttgcc ccgcacctg cccctgcacc acagacctgg gagttccct 360

cccccacctt cctcctcccc tcctcaaccc tgcagcccct gccctgtcag caccctgtgtt 420
 gctgagagcg tagaagctga ggctgcagtt gctgtgggtcc cgggggaagt ggaggagctc 480
 aaagttgcag ttgggtctccg tgggtgagggc caggttgagc ttacagtggc cgtcctggtc 540
 tactcgagcc tgggggctct ggtccctcca gtccaccag agcctgtggg gaaaggcacc 600
 acagccagag cccagcccc ttcttggaagc gggccggggg gagaccctgg ca 652

<210> 42
 <211> 680
 <212> DNA
 <213> Homo sapiens

<400> 42
 aattatagaa aatccaaata tcctggctgg ggtgagagtc tgtaagctag ccagagaaaa 60
 cagctaaggc taagaaaata aaatatagga gaaaattcta gaaaatccag atatcctggc 120
 tgggggtgaga gtctgtaagc tagccagaga aaagagctga ggccaagaca ataaaatata 180
 ggagaaaatt ctagaaaaat gaaaattggt ttattgtccc agatctgtac ccttctcccc 240
 ctctgattgt tcacttgatt ttagatgggt aatgacaaat attggtgaag aaaatcattc 300
 catgaaacac tggtaacat ttgtccgaaa cgccttcatg gcagcactgc cgtggctcag 360
 tacattgcac ctgcacttcc aaagtgaagg tgactgttac ctgaaaccca tgtgcctggc 420
 acacatgacc agccttggac acaagaggcc tttgatcaga aactgggagg cactcccaca 480
 ttcccacaat gaaattccgt ggggtgcctgt accctgagtt catccaacac atgggttactg 540
 atcatgtagg gtgtaccagg ctatgtcaga cgtagagac accatgaaga gcaaacagtt 600
 agcttatggg gagtgcctaa cgcacacctg ccatttacat ctttgtcctc atgattcttc 660
 ccactgaacc aatggcactg 680

<210> 43
 <211> 559
 <212> DNA
 <213> Homo sapiens

<400> 43
 atgtctcttt gtttaattag ttttgggtgg ctcaattttt aggaactattg ttctgtttt 60
 tctttcctca gttttaattg ccaatttaag ctctggacaa aatctgaaaa ttacaactg 120
 gaattttaca agaaggcctc gtattataaa gtttgttgct tggtttgtga gacttgggtt 180
 gtggacagtt tgaataaggt ttcatagaa aagcatcagt gaaagaaaga aaataaaata 240
 tattttaaag taactttcct ccttccaata aaacttctaa aagtcaatac atatgacttt 300

00069US1.ST25

ttcaaaaaca taaaaaaaaa tgccagatat agggctcttc acccaaagat taaaataagt 360
 tttttttaa acaaacaaaac aaacaaacaa aaagaacata tggctgaaat aaaagtgcc 420
 cttggtagaa tatgcaatga aagtgtaggt tgggtccaga gaaacagttg tgtgcagaca 480
 tcaattctca ggagacaatg aggagtgaag caacaagat tgaatggcgg aaagttgaag 540
 ggtgatactg ttgaaatag 559

<210> 44
 <211> 648
 <212> DNA
 <213> Homo sapiens

<400> 44
 ctccctcata gattactctt ttcattaccc ttgtgccata taacatctta gctgtgtgag 60
 accagggaga aaggtgttgg tcacctaccc ttggcagtag gaagtctttc agatctgata 120
 ttaattgtgt attcaaatgt caaggtatcc tagtacagaa aatatcagtg ggttattctg 180
 ataaggaaaa tactatattgc taattttaga aaagagaata tgctaaaagt tacacctcag 240
 agggaatatc atttgatatg gtgaacagga aaccaagaa gttgtgaatt ccattcaaaa 300
 gatgaaactg cttagaagat aatgtaaggt tctcacccaa catgagcaact gcactcaagg 360
 ccatttctag gatgaaaggg tgggatgatt atctattatt ccagccatga attatttctg 420
 tggcctccag aagatgcaac tgaattgtag ctatgtgtcc agaatcgggt ccttctgggtg 480
 ggttcttggt ctcgctgact tcaagaatga agccgtggac cctcacgggtg agtggtgcag 540
 ttcttaaaga tgggtgtgtct ggagtttggt ccttcagata ttcagatgtg tcccggagtt 600
 tctttcttct ggtgggtttt gtggtcttac tgacttcagg agtgaagc 648

<210> 45
 <211> 585
 <212> DNA
 <213> Homo sapiens

<400> 45
 agcagtggca tgatagggtc attccttgga gtctattgtg tgtgtttggg gccccgtaaa 60
 atattagaaa gcgatggaaa ttttagggct ccgtataata ttgtatttac ataaccactc 120
 agctotcaac tactctcaaa gagtacctac tgaagatcat gtcttcaact tgctaaggct 180
 gatctgggta ttagccaact ctctgagttg aaggaaacag atgtaaccag gtcattctcat 240
 gaaatggagc tctattgttc agtagatgag gtagtaagtg gagcagacac tgctgtttgc 300
 cttctccctg gctaacagag gactgacatt gactggatta aaggatagag ctaccctgta 360
 cttcaggcgg ctgcattcct ccctgcoggc accagtgatt gatttaggaa tgggtagagg 420

gtgcaattct gaccaatgag acgtgggaga agcttgctgg ggagttggtg gggatatttc 480
 cttttgcttt aaaaggggca aaggaaaggt acattccctt ttttttcct tttcatctc 540
 tggatgtcat tgcttgaac ttttgaggc ttctgatacc atgag 585

<210> 46
 <211> 642
 <212> DNA
 <213> Homo sapiens

<400> 46
 cccagcagaa cataaggttg tggtgaggac atgaatgcac cccagggagc actgaactgc 60
 tctgagctgc cgactagggc cataggctag ctatgtgggc ccatattgag gtaggggctg 120
 agcagtccca gcggcaccgc ccaggctgcc tgcctgaggg tccctgcaaa agccgccgct 180
 gagcccacgg acttccgggt cgtaagcacg tggggcctga acatctgctt ggctgggtca 240
 gctgctatga caatgcccg ggcctgctgc cctccagcgc tgctgcatg ccgaggagga 300
 agcgagtccc cagctgaata atcgggctcc gccggctcac agcggatgac agaaggctcag 360
 gtcgctctgc tcttttcgcc tccgtttttc ttctcatgg aaactttctt cagctgcaga 420
 aaaagctggg ctttttcttt ctgcctggcc cacagcttct cctgcaaagt caaaatttgt 480
 tccttcgggc tctctgggtg acattctctc ttccatctcc tttctcttcc ttctgtctgt 540
 cttctctcat cttctcgcca tcaccttacc cgccgcctcc tcttccctct cgccccgcag 600
 cctgcgctcc cgccgggggc gctccggaca cactgtctgc gc 642

<210> 47
 <211> 657
 <212> DNA
 <213> Homo sapiens

<400> 47
 ctttttctgc agctgaagaa gtttccatga ggaagaaaaa cggaggcgaa aggagcagag 60
 cgacctgacc ttctgacatc cgctgtgagc cggcggagcc cgattattca cgtggggact 120
 cgcttctctc tcggcatgca ggcagcgtg gagggcacga tcgcccgggc attgtcatag 180
 cagctgacct agccaagcag atgttcaggc cccagctgct tacgaccgg aagtccgtgg 240
 gctcagcggc ggcttttgca gggaccccag agcaggcagc ctgggcgggtg ccgctgggac 300
 tgctcagccc ctacctaat atgggcccac atagctagcc tatggcccta gtcggcagct 360
 cagagcagtt cagtgtctcc tgggggtgcat tcatgtccca gccacaacct tatgttctgc 420
 tggggccactt tcagcacacc cagacagggt tctcttctct gtgctgctct gtctttgaaa 480

00069US1.ST25

ccgcagatag accatgctaa ccagcacaca ggtttccctg gtccatcctc cctgaccccc 540
 atgcatgccc aggtctctgca tccaggccct agactccttg cctaattcca gctccccgcg 600
 aagatgcagc cagcaggaac gtctaggttt tgcagctacc aaccaaccag gccctca 657

<210> 48
 <211> 446
 <212> DNA
 <213> Homo sapiens

<400> 48
 tctgaagctg ccgtgtatga acatacatct acacatacac acacacacac acacacacac 60
 acacacacac acacacacac acacacacac acccccgcgt gtgataaaac tatgtaaatg 120
 atatttccat aattaatacg tttatattat gttactttta atggatgaat atgtatcgaa 180
 gccccatttc atttacatac acgtgtatgt atatccttcc tcccttcctt cattcattat 240
 ttattaataa ttttcgttta tttattttct tttcttttgg ggccggcccg cctgggtcttc 300
 tgtctctgcg ctctgggtgac ctccagcctcc caaatagctg ggactacagg ggatctctta 360
 agcccgaggag ggagaggtta acgtgggctg tgatcgaca cttccactcc agcttacgtg 420
 ggctgcggtg ggggtggggtg ggggtgg 446

<210> 49
 <211> 554
 <212> DNA
 <213> Homo sapiens

<400> 49
 tctatagctc ccacctatt cacagaagcc tgggtgatat cttctgaccg tagcacttta 60
 tagacaacct agtagaagat attgaagatg aggaaagtga aagggaagac agcccgaggag 120
 atgggtgtcaa ttctcttggc tcagtccacg tagagtttcc gcgtgggttc tccttcctt 180
 agaagagggg ctggaggttg gggactataa atgccagaac cttccatttg acctccatct 240
 cttgcctgca ggcagtggcc caagccatag ccacggaaat agaaacgact ttcttggtg 300
 atatcttcct cctggaatta caaggaagaa acggcagaat ttgaggtcaa agctcaaagg 360
 cagaggggata gagaacagac caccatcaa tatctcatag ggaatgttat gcagacaagg 420
 tgccttgggt acacaggccc attgcatgct ttttatggtc acaacactac tcatgagata 480
 gatgtatgct aagcagctct acgtgctata tatagtgtat gtcatgattc catggcagat 540
 aggtcttaag ctac 554

<210> 50
 <211> 469

<212> DNA
 <213> Homo sapiens

<400> 50
 tcattaattt attactaagc actagtggaa atctaacttt atttaccccc atcaacttgg 60
 cttgtgttac cagaacaaga aggcaaccaa acatgaaatg ctttgggaaa tgaccacta 120
 gactgaacgt ccaaactact tttgctgtta catactgtat gacagcgggt ctcaaacctc 180
 tgtgtgcaga acaccctga gaacttgta aaataacggg tcctgagccc cagcccagag 240
 cgtatgggtc agtagtttgg gggtagggtt ggagaatttg catttgtagt aagttcccag 300
 gtgatactgc tgctgccact ggtcctggac tacactttga ggagcctgct gaacacagca 360
 cctcagcctc tacttgaagg acaaactagc ttcttactgg attcagtggc aagattaagc 420
 ccactgggtc tcaaacacaa tccccttggg aacaccagtg ctctaccac 469

<210> 51
 <211> 445
 <212> DNA
 <213> Homo sapiens

<400> 51
 tcagcatttt gttgccaagt tttctgagac ctctggccat taagccttca ctgggggtgt 60
 ggtctgtctc tgaagtctac tccattgca aatggatttt gacggtaatg gtcaacacgc 120
 ctgggcaaag aatgggtcat gccattctt actggaaaga tttggaacat ttccctgtaa 180
 attgtatatt atttgattt atttctctaa ctgaatggac gtttttctat atgttgccaa 240
 atcttccagt aatgcttctc attcagtgtg attaaggaga ttaaaagtga cagcattttt 300
 cttgttgaat taatgatggg tttttacatt ttacttttc aaaaaatata atcaccactg 360
 tgttttgcag aaacaatagt atgataaaat caaggagaaa tacaactaga gaagaggcaa 420
 aaaaatctca atattatgat tataa 445

<210> 52
 <211> 60
 <212> PRT
 <213> Homo sapiens

<400> 52
 Val Ala Ile Arg Arg Arg Pro Ser Leu Tyr Ile Ile Asn Leu Leu Val
 1 5 10 15
 Pro Ser Ser Phe Leu Val Ala Ile Asp Ala Leu Ser Phe Tyr Leu Pro
 20 25 30
 Ala Glu Ser Glu Asn Arg Ala Pro Phe Lys Ile Thr Leu Leu Leu Gly
 35 40 45

Tyr Asn Val Phe Leu Leu Met Met Asn Asp Leu Leu
 50 55 60

<210> 53
 <211> 26
 <212> PRT
 <213> Homo sapiens

<400> 53

Ser Ala Pro Trp Leu Ser Trp Gly Ile Leu Leu Ile Leu Gly Glu Gly
 1 5 10 15

Ser His Ala Pro Thr Ser Phe Tyr Ser Arg
 20 25

<210> 54
 <211> 22
 <212> PRT
 <213> Homo sapiens

<400> 54

Arg Thr Val Pro Pro Tyr Leu Tyr Asn Thr Asp Val Trp Phe Phe Phe
 1 5 10 15

Ile Arg His Tyr Pro Trp
 20

<210> 55
 <211> 33
 <212> PRT
 <213> Homo sapiens

<400> 55

Gly Gly Arg Arg Gly Ser Ser Leu Pro Gln Asn Pro Thr Gly Gly Pro
 1 5 10 15

Ser Ser Phe Cys Gly His Cys Ile Ser Leu Tyr Ile Leu Pro Pro Gln
 20 25 30

Arg

<210> 56
 <211> 35
 <212> PRT
 <213> Homo sapiens

<400> 56

Leu Leu Leu Leu Gly Asn Ser His Tyr Val Tyr Asp Gly Leu Ser Tyr
 1 5 10 15

Ser Val Phe Pro Ile Phe Phe His Ile Phe His Phe Leu Tyr Trp Ser
 20 25 30

Pro Phe Ser
35

<210> 57
<211> 37
<212> PRT
<213> Homo sapiens

<400> 57

Gly Asp Cys Arg Met Ala His Ala Glu Gln Lys Leu Met Asp Asp Leu
1 5 10 15

Leu Asn Lys Thr Cys Tyr Asn Asn Leu Asp Pro Pro Ser His Gln Leu
20 25 30

Leu Thr Ala His Leu
35

<210> 58
<211> 52
<212> PRT
<213> Homo sapiens

<400> 58

Asp Glu Arg Asn Gln Val Leu Thr Leu Tyr Leu Trp Ile Arg Gln Glu
1 5 10 15

Trp Thr Asp Ala Tyr Leu Arg Trp Asp Pro Asn Ala Tyr Gly Gly Leu
20 25 30

Asp Ala Ile Arg Ile Pro Ser Ser Leu Val Trp Arg Pro Asp Ile Val
35 40 45

Leu Tyr Asn Lys
50

<210> 59
<211> 27
<212> PRT
<213> Homo sapiens

<400> 59

His Phe Val Ala Leu Phe Ser Gln Asp Trp Lys Phe Val Leu Gln Ile
1 5 10 15

Leu Tyr Lys Leu Cys Leu Phe Phe Val Leu Ile
20 25

<210> 60
<211> 40
<212> PRT
<213> Homo sapiens

<400> 60

Leu Met Gln Val Trp Asp Asn Pro Phe Ile Asn Trp Asn Pro Lys Glu

1 5 10 15
 Cys Val Gly Ile Asn Lys Leu Thr Val Leu Ala Glu Asn Leu Trp Leu
 20 25 30

Pro Asp Ile Phe Ile Val Glu Ser
 35 40

<210> 61
 <211> 37
 <212> PRT
 <213> Homo sapiens

<400> 61

Arg Glu Pro Asn Ser Phe Phe His Asn Gly Ile Asn Ser Thr His Asn
 1 5 10 15

Thr Gly Trp Pro Asn His Leu Leu Lys Val Ser Tyr Leu Asn Thr Phe
 20 25 30

Thr Met Thr Ile Lys
 35

<210> 62
 <211> 52
 <212> PRT
 <213> Homo sapiens

<400> 62

Thr Leu Ile Glu Cys Ser Met Leu Asn Leu Val Asn Leu Val Leu Asn
 1 5 10 15

Arg His Asp Val Leu Ala Arg Ser Ile Phe Phe Gln Thr Thr Val Trp
 20 25 30

Thr Ser Ile Thr Ser Glu Lys Gly Glu Leu Pro Leu Val Ala Ser Val
 35 40 45

Thr Gln Lys Asp
 50

<210> 63
 <211> 42
 <212> PRT
 <213> Homo sapiens

<400> 63

Cys Ile Ser Asp Leu Gly Ile Phe His Tyr Ser Tyr Gln Leu Ser Ile
 1 5 10 15

Ser Asn Pro Glu Asn Pro Lys His Ser Asn Glu His Phe Leu Val Ser
 20 25 30

His Trp Tyr Ser Lys Asn Phe Arg Phe Trp
 35 40

<210> 64
 <211> 57
 <212> PRT
 <213> Homo sapiens

<400> 64

Ser Ser His Val Leu Pro Pro Tyr Phe Pro Leu Leu Gly Ile Leu Pro
 1 5 10 15
 Arg Pro Ser Phe Phe Thr Arg Pro Val Thr Glu Tyr Thr Leu Met Arg
 20 25 30
 Pro Lys Pro Phe Leu Asn Ser Asn Ser Lys Ser Met Asp Ser Phe Phe
 35 40 45
 Leu Phe His Thr Tyr Ser Cys His Ser
 50 55

<210> 65
 <211> 97
 <212> PRT
 <213> Homo sapiens

<400> 65

Pro Glu Thr Asn Ile Gly Ser Cys Leu Glu Thr Ser His Ser Ile His
 1 5 10 15
 Ser Glu Arg Lys Leu Thr Gln Gly Pro Arg Gln Leu Leu Asn Pro Lys
 20 25 30
 Gln Leu Gln Glu Gly Thr Ile Leu Arg Thr Gln Pro Leu Ser Tyr Cys
 35 40 45
 Ile Leu Leu Glu Gly Pro Ile Ala Pro Val Ser Ser His Pro Trp Ser
 50 55 60
 Pro Ile Asp Ile Leu His Leu Tyr Ser Pro Pro Gln Leu Ala Leu Leu
 65 70 75 80
 Pro Arg Pro Lys Cys Lys Pro Leu Ser Val Thr Gln Leu Pro Pro Val
 85 90 95

Ala

<210> 66
 <211> 21
 <212> PRT
 <213> Homo sapiens

<400> 66

Pro Ala Arg Arg Ser Glu Arg Val Tyr Glu Cys Cys Lys Glu Pro Tyr
 1 5 10 15
 Pro Asp Val Thr Phe
 20

<210> 67
 <211> 85
 <212> PRT
 <213> Homo sapiens

<400> 67

Asn Ala Pro Ala Ile Thr Arg Ser Ser Cys Arg Val Asp Val Ala Ala
 1 5 10 15

Phe Pro Phe Asp Ala Gln His Cys Gly Leu Thr Phe Gly Ser Trp Thr
 20 25 30

His Gly Gly His Gln Leu Asp Val Arg Pro Arg Gly Ala Ala Ala Ser
 35 40 45

Leu Ala Asp Phe Val Glu Asn Val Glu Trp Arg Val Leu Gly Met Pro
 50 55 60

Ala Arg Arg Arg Val Leu Thr Tyr Gly Cys Cys Ser Glu Pro Tyr Pro
 65 70 75 80

Asp Val Thr Phe Thr
 85

<210> 68
 <211> 42
 <212> PRT
 <213> Homo sapiens

<400> 68

Ser Leu Ser Leu Ala Gly Lys Tyr Tyr Met Ala Thr Met Thr Met Val
 1 5 10 15

Thr Phe Ser Thr Ala Leu Thr Ile Leu Ile Met Asn Leu His Tyr Cys
 20 25 30

Gly Pro Ser Val Arg Pro Val Pro Ala Trp
 35 40

<210> 69
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 69

Gly Arg Leu Ala Leu Lys Leu Phe Arg Asp Leu Phe Ala Asn Tyr Thr
 1 5 10 15

Ser Ala Leu Arg Pro Val Ala Asp Thr Asp Gln Thr Leu Asn Val Thr
 20 25 30

Leu Glu Val Thr Leu Ser Gln Ile Ile Asp Met
 35 40

<210> 70

<211> 31
 <212> PRT
 <213> Homo sapiens

<400> 70

Ala Glu Gly Arg Leu Ala Leu Lys Leu Phe Arg Asp Leu Phe Ala Asn
 1 5 10 15

Tyr Thr Ser Ala Leu Arg Pro Val Ala Asp Thr Asp Gln Thr Leu
 20 25 30

<210> 71
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 71

Gln Ser His Pro Phe Leu Tyr Phe Ser Ile Cys Leu Ile Lys Gln Ser
 1 5 10 15

Ser Phe Val Pro Leu Ser Ile Cys His Pro Ser Val Leu Pro Ser Phe
 20 25 30

Phe Pro Gln Thr Ser Phe Tyr Ile Pro Ala Ser
 35 40

<210> 72
 <211> 69
 <212> PRT
 <213> Homo sapiens

<400> 72

His Tyr Val Tyr Leu Tyr Cys Cys Ala Asn Val Thr Thr Ile His Leu
 1 5 10 15

His Asn Phe Phe His Leu Pro Lys Leu Lys Leu Pro Ile Tyr Thr Ile
 20 25 30

Thr Pro Val Ser Pro Cys Pro Gln Leu Leu Ala Thr Thr Met Leu Pro
 35 40 45

Cys Val Ser Met Asn Leu Ala Thr Leu Ser Thr Tyr Lys Asn His Thr
 50 55 60

Val Phe Val Leu Leu
 65

<210> 73
 <211> 42
 <212> PRT
 <213> Homo sapiens

<400> 73

Phe Ser His Ile Leu Asn Ala Tyr Trp Asn Met Tyr Asn Tyr Ile Trp
 1 5 10 15

Asn Val Asp Ala Tyr Thr Ser Val Phe Leu Phe Phe Leu Glu Glu Lys
 20 25 30

Val Tyr Phe Pro Pro Leu Ile Cys Val Asn
 35 40

<210> 74
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 74

Glu Thr Asn Tyr Ser Tyr Val Val Ser Ser Leu Pro Ser Ile Phe Phe
 1 5 10 15

Ile Asn Ser Val Ile Ile Pro Cys Leu Leu Phe Phe Phe Ser Glu Phe
 20 25 30

Arg Val Ile Ile Ser Arg Ile Phe Ser Leu Pro
 35 40

<210> 75
 <211> 22
 <212> PRT
 <213> Homo sapiens

<400> 75

Phe Phe Glu Phe Gly Glu Trp Val Leu Glu Thr Val Lys Gly Arg Lys
 1 5 10 15

Tyr Leu Phe Tyr Cys Cys
 20

<210> 76
 <211> 58
 <212> PRT
 <213> Homo sapiens

<400> 76

Glu Lys Leu Ser Ala Pro Pro Arg Val Ala Lys Arg Gly Ser Gly Gly
 1 5 10 15

Ala Gly Ile Gly Cys Ala Thr Val Ser Phe Phe Gly Gln Thr Glu His
 20 25 30

Ala Ala Pro Asn Asp Ser Ala Ile Phe Leu Pro Phe Pro Glu Pro Arg
 35 40 45

Ala Val Gln Pro Val Ala Ser Phe Pro Asp
 50 55

<210> 77
 <211> 58
 <212> PRT
 <213> Homo sapiens

<400> 77

Trp Gln Ile Ser Leu Leu His Tyr Cys Ser Phe Pro Leu Arg Gly Leu
 1 5 10 15
 Tyr Thr Tyr Ser Ala Phe Pro Cys Asp Trp Gln His Cys Thr Val Gly
 20 25 30
 Gly Ser Val Thr Phe His Phe Ser Asp Ile Gly Leu Val His Val Ile
 35 40 45
 Cys Phe Gly Gln Trp Asn Val Arg Asp Thr
 50 55

<210> 78

<211> 37

<212> PRT

<213> Homo sapiens

<400> 78

Trp Ile Cys Ser Glu Ile Leu Tyr Lys Cys Val Phe Lys Ala Glu Phe
 1 5 10 15
 Leu Gly Phe Asp Trp Leu Gly Cys Val Ile Cys Phe Met Ser Met Ser
 20 25 30
 Tyr Ser Thr Asn Lys
 35

<210> 79

<211> 23

<212> PRT

<213> Homo sapiens

<400> 79

Val Leu Asp Arg Met Phe Leu Trp Leu Asp Leu Val Ser Cys Val Leu
 1 5 10 15
 Gly Ile Tyr Ile Phe Ile Pro
 20

<210> 80

<211> 54

<212> PRT

<213> Homo sapiens

<400> 80

Gly Asp Cys Arg Met Ala His Ala Glu Gln Lys Leu Met Asp Asp Leu
 1 5 10 15
 Leu Asn Lys Thr Arg Tyr Asn Asn Leu Ile Cys Pro Ala Thr Ser Ser
 20 25 30
 Ser Gln Leu Ile Ser Ile Glu Thr Glu Leu Ser Leu Ala Gln Cys Ile
 35 40 45

Ser Val Val Ser Ala Glu
50

<210> 81
<211> 50
<212> PRT
<213> Homo sapiens

<400> 81

Gly Asp Cys Arg Met Ala His Ala Glu Gln Lys Leu Met Asp Asp Leu
1 5 10 15

Leu Asn Lys Thr Cys Tyr Asn Asn Leu Ile Arg Pro Ala Thr Ser Ser
20 25 30

Ser Gln Leu Ile Ser Ile Gln Thr Ala Leu Ser Leu Ala Gln Cys Ile
35 40 45

Ser Val
50

<210> 82
<211> 34
<212> PRT
<213> Homo sapiens

<400> 82

Gly Asp Cys Arg Met Ala His Ala Glu Gln Lys Leu Met Asp Asp Phe
1 5 10 15

Leu Asn Lys Thr Cys Tyr Asn Asn Leu Ile Arg Pro Ala Thr Ser Ser
20 25 30

Ser Gln

<210> 83
<211> 30
<212> PRT
<213> Homo sapiens

<400> 83

Ala Glu Gln Lys Leu Met Asp Asp Leu Leu Asn Lys Thr Arg Tyr His
1 5 10 15

Asn Leu Ile Pro Pro Ser Arg Gln Leu Leu Thr Ala His Leu
20 25 30

<210> 84
<211> 18
<212> PRT
<213> Homo sapiens

<400> 84

[illegible]

Leu Asn

<400> 85

Phe Phe Leu Cys Pro His Met Gly Phe Ser Leu Cys Ile Cys Ile Leu
20 25 30

```
<210> 86
<211> 39
<212> PRT
<213> Homo sapiens
```

<400> 86

Glu Phe Thr Trp Leu Arg Arg Asn Asp Ser Val His Gly Leu Glu Thr
1 5 10 15

Leu Trp Leu Ala Tyr Thr Ile Gln Trp Tyr Phe Thr Leu Asp Thr Arg
20 25 30

Leu Gln Gln Glu Thr Gly Asn
35

```
<210> 87
<211> 54
<212> PRT
<213> Homo sapiens
```

```
<220>
<221>  UNSURE
<222>  (33)..(43)
<223>  Xaa is any amino acid
```

<400> 87

Gly Leu Thr Ser Met Leu Ile Leu Thr Thr Ile Asp Ser His Leu Arg
1 5 10 15

Asp Lys Leu Pro Asn Ile Ser Cys Ile Lys Ala Ile Asp Ile Tyr Ile
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Glu Tyr Val Tyr
35 40 45

Ile Asn Tyr Leu Phe Tyr
50

<210> 88
<211> 42
<212> PRT
<213> Homo sapiens

<400> 88

Leu Ser Phe Ile Ser Glu Thr Lys Gln Lys Pro Leu Asn Gly Trp Phe
1 5 10 15

Leu Asn Ile Leu Pro Gln Thr Phe Pro Leu Thr Cys Ile Arg Ile His
20 25 30

Phe Gly Gly Pro Pro Leu Cys Leu Gly Met
35 40

<210> 89
<211> 43
<212> PRT
<213> Homo sapiens

<400> 89

Leu Phe Leu Phe Val Ser Phe Leu Phe Leu Gln Pro Leu Met Glu Tyr
1 5 10 15

Gly Thr Leu His Tyr Phe Thr Ser Asn Gln Lys Gly Lys Thr Ala Thr
20 25 30

Lys Asp Arg Lys Leu Lys Asn Lys Ala Ser Val
35 40

<210> 90
<211> 94
<212> PRT
<213> Homo sapiens

<400> 90

Leu Ala Ser Trp Pro Pro Val Asp His Phe Cys Arg Gln Asp Ser Gln
1 5 10 15

Lys Gly Asn His Ser Leu Asn Phe Tyr Arg Ile Ile Phe Tyr Leu Lys
20 25 30

Arg His Val His Lys Trp Gln Asp Ala Gln His Thr Ser Phe Tyr Cys
35 40 45

Val Ser Leu Tyr Cys Thr Ser Gln Ile Leu His Phe Leu Thr Asn Gly
50 55 60

Arg Phe Leu Ala Thr Leu Cys Gln Ala Asn Leu Ser Val Pro Phe Val
65 70 75 80

Gln Gln His Ala Leu Pro Ser Cys Leu Trp Val Thr Phe Trp

85

90

<210> 91
 <211> 44
 <212> PRT
 <213> Homo sapiens

<400> 91

Arg Val Asp Gln Asp Gly His Val Lys Leu Asn Leu Ala Leu Thr Thr
 1 5 10 15

Glu Thr Asn Cys Asn Phe Glu Leu Leu His Phe Pro Arg Asp His Ser
 20 25 30

Asn Cys Ser Leu Ser Phe Tyr Ala Leu Ser Asn Thr
 35 40

<210> 92
 <211> 44
 <212> PRT
 <213> Homo sapiens

<400> 92

Arg Val Asp Gln Asp Gly His Val Lys Leu Asn Leu Ala Leu Thr Thr
 1 5 10 15

Glu Thr Asn Cys Asn Phe Glu Leu Leu His Phe Pro Arg Asp His Ser
 20 25 30

Asn Cys Ser Leu Ser Phe Tyr Ala Leu Ser Asn Thr
 35 40

<210> 93
 <211> 59
 <212> PRT
 <213> Homo sapiens

<400> 93

Leu Glu Phe Ser Pro Ile Phe Tyr Cys Leu Arg Leu Ser Ser Phe Leu
 1 5 10 15

Trp Leu Ala Tyr Arg Leu Ser Pro Gln Pro Gly Tyr Leu Asp Phe Leu
 20 25 30

Glu Phe Ser Pro Ile Phe Tyr Phe Leu Ser Leu Ser Cys Phe Leu Trp
 35 40 45

Leu Ala Tyr Arg Leu Ser Pro Gln Pro Gly Tyr
 50 55

<210> 94
 <211> 38
 <212> PRT
 <213> Homo sapiens

<400> 94

Phe Asn Phe Pro Pro Phe Asn Leu Val Cys Phe Thr Pro His Cys Leu
1 5 10 15

Leu Arg Ile Asp Val Cys Thr Gln Leu Phe Leu Trp Thr Gln Pro Thr
20 25 30

Leu Ser Leu His Ile Leu
35

<210> 95
<211> 46
<212> PRT
<213> Homo sapiens

<400> 95

Ala Ser Arg Arg Cys Asn Ile Val Ala Met Cys Pro Glu Ser Val Pro
1 5 10 15

Ser Gly Gly Phe Leu Val Ser Leu Thr Ser Arg Met Lys Pro Trp Thr
20 25 30

Leu Thr Val Ser Val Ala Val Leu Lys Asp Gly Val Ser Gly
35 40 45

<210> 96
<211> 43
<212> PRT
<213> Homo sapiens

<400> 96

Gly Ala Ile Leu Thr Asn Glu Thr Trp Glu Lys Leu Ala Gly Glu Leu
1 5 10 15

Val Gly Tyr Phe Pro Phe Ala Leu Lys Gly Ala Lys Glu Arg Tyr Ile
20 25 30

Pro Phe Phe Phe Pro Phe Ser Ser Leu Asp Val
35 40

<210> 97
<211> 164
<212> PRT
<213> Homo sapiens

<400> 97

Lys Arg Glu Cys His Gln Arg Arg Pro Lys Glu Gln Ile Leu Thr Leu
1 5 10 15

Gln Glu Lys Leu Trp Ala Arg Gln Lys Glu Lys Asp Gln Leu Phe Leu
20 25 30

Gln Leu Lys Lys Val Ser Met Arg Lys Lys Asn Gly Gly Glu Arg Ser
35 40 45

Arg Ala Thr Pro Ser Asp Ile Arg Cys Glu Pro Ala Glu Pro Asp Tyr

50

55

60

Ser Arg Gly Asp Ser Leu Pro Pro Arg His Ala Gly Ser Ala Gly Gly
65 70 75 80

His Asp Arg Pro Gly Ile Val Ile Ala Ala Asp Pro Ala Lys Gln Met
85 90 95

Phe Arg Pro His Val Leu Thr Thr Arg Lys Ser Val Gly Ser Ala Ala
100 105 110

Ala Phe Ala Gly Thr Pro Glu Gln Ala Ala Trp Ala Val Pro Leu Gly
115 120 125

Leu Leu Ser Pro Tyr Leu Asn Met Gly Pro His Ser Pro Met Ala Leu
130 135 140

Val Gly Ser Ser Glu Gln Phe Ser Ala Pro Trp Gly Ala Phe Met Ser
145 150 155 160

Gln Pro Gln Pro

<210> 98

<211> 104

<212> PRT

<213> Homo sapiens

<400> 98

Gly Ser Ala Gly Gly His Asp Arg Pro Gly Ile Val Ile Ala Ala Asp
1 5 10 15

Pro Ala Lys Gln Met Phe Arg Pro His Val Leu Thr Thr Arg Lys Ser
20 25 30

Val Gly Ser Ala Ala Ala Phe Ala Gly Thr Pro Glu Gln Ala Ala Trp
35 40 45

Ala Val Pro Leu Gly Leu Leu Ser Pro Tyr Leu Asn Met Gly Pro His
50 55 60

Ser Pro Met Ala Leu Val Gly Ser Ser Glu Gln Phe Ser Ala Pro Trp
65 70 75 80

Gly Ala Phe Met Ser Gln Pro Gln Pro Tyr Val Leu Leu Gly His Phe
85 90 95

Gln His Thr Gln Thr Gly Phe Leu
100

<210> 99

<211> 62

<212> PRT

<213> Homo sapiens

<400> 99

Cys Ile Glu Ala Pro Phe His Leu His Thr Arg Val Cys Ile Ser Phe

1 5 10 15
 Leu Pro Ser Phe Ile His Tyr Leu Leu Ile Ile Phe Val Tyr Leu Phe
 20 25 30
 Ser Phe Leu Leu Gly Pro Ala Arg Leu Val Phe Cys Leu Cys Ala Leu
 35 40 45
 Val Thr Ser Ala Ser Gln Ile Ala Gly Thr Thr Gly Asp Leu
 50 55 60

<210> 100
 <211> 94
 <212> PRT
 <213> Homo sapiens

<400> 100

Gln Glu Glu Asp Ile Ile Gln Glu Ser Arg Phe Tyr Phe Arg Gly Tyr
 1 5 10 15
 Gly Leu Gly His Cys Leu Gln Ala Arg Asp Gly Gly Pro Met Glu Gly
 20 25 30
 Ser Gly Ile Tyr Ser Pro Gln Pro Pro Ala Pro Leu Leu Arg Glu Gly
 35 40 45
 Glu Thr Thr Arg Lys Leu Tyr Val Asp Ala Lys Arg Ile Asp Thr Ile
 50 55 60
 Ser Arg Ala Val Phe Pro Phe Thr Phe Leu Ile Phe Asn Ile Phe Tyr
 65 70 75 80
 Trp Val Val Tyr Lys Val Leu Arg Ser Glu Asp Ile His Gln
 85 90

<210> 101
 <211> 43
 <212> PRT
 <213> Homo sapiens

<400> 101

Glu Asn Arg Cys His Thr Val Cys Asn Ser Lys Ser Asp Leu Asp Val
 1 5 10 15
 Gln Ser Ser Gly Ser Phe Pro Lys Ala Phe His Val Trp Leu Pro Ser
 20 25 30
 Cys Ser Gly Asn Thr Ser Gln Val Asp Gly Gly
 35 40

<210> 102
 <211> 71
 <212> PRT
 <213> Homo sapiens

<400> 102

00069US1.ST25

Ala Ile Lys Pro Ser Leu Gly Val Trp Ser Val Ser Glu Val Tyr Ser
1 5 10 15

His Cys Lys Trp Ile Leu Thr Val Met Val Asn Thr Pro Gly Gln Arg
20 25 30

Met Gly His Ala His Ser Tyr Trp Lys Asp Leu Glu His Phe Pro Val
35 40 45

Asn Cys Ile Leu Phe Gly Phe Ile Ser Leu Thr Glu Trp Thr Phe Phe
50 55 60

Tyr Met Leu Pro Asn Leu Pro
65 70

<210> 103

<211> 1779

<212> DNA

<213> Homo sapiens

<400> 103

tggtaccggt ccggaattcc cgggatcacg cctgccttg gggccctct catataggga	60
gcacaggggt gctctccttc atctcacaca ttcgatgtcc actacaggaa ggggcgttac	120
tttcaccatc aattgctcag ggtttggcca gcacggggcg gatccactg ctctgaattc	180
agtgtttaat agaaagccct tccgtccggt caccaacatc agcgtcccca cccaagtcaa	240
catctccttc gcgatgtctg ccatcctaga tgtgaatgaa cagctgcacc tcttgatc	300
attcctgtgg ctggaaatgg tttgggataa cccatttatt agctggaacc cagagggaatg	360
tgaggggcac acgaagatga gtatggcagc caagaacctg tggctcccag acattttcat	420
cattgaactc atggatgtgg ataagacccc aaaaggcctc acagcatatg taagtaatga	480
aggctgcac aggtataaga aacccatgaa ggtggacagt atctgtaacc tggacatctt	540
ctacttcccc ttcgaccagc agaactgcac actcaccttc agctcattcc tctacacagt	600
ggacagcatg ttgctggaca tggagaaaga agtgtgggaa ataacagacg catcccgga	660
catccttcag acccatggag aatgggagct cctgggcctc agcaaggcca cgcgaaagtt	720
gtccagggga ggcaacctgt atgatcagat cgtgttctat gtggccatca ggccgaggcc	780
cagcctctat gtcataaacc ttctcgtgcc cagtggcttt ctggttgcca tcatgacct	840
cagcttctac ctgccagtga aaagtgggaa tcgtgtccca ttcaagataa cgtcctgct	900
gggtacaac gtcttctgc tcatgatgag tgacttgctc cccaccagtg gcacccccct	960
catcgggtgc tacttcgccc tgtgcctgtc cctgatgggtg ggcagcctgc tggagaccat	1020
cttcacacc cactgctgc acgtggccac caccagccc ccacccctgc ctcggtggct	1080
ccactccctg ctgctccact gcaacagccc ggggagatgc tgtccactg cgcaccagaa	1140

00069US1.ST25

```

ggaaaataag ggcccgggtc tcacccccac ccacctgccc ggtgtgaagg agccagaggt 1200
atcagcaggg cagatgccgg gccctgcgga ggcagagctg acagggggct cagaatggac 1260
aagggcccag cgggaacacg agggcccagaa gcagcactca gtggagctgt ggttgcaagt 1320
cagccacgcg atggacgcca tgctcttccg cctctacctg ctcttcatgg cctcctctat 1380
catcacgctc atatgcctct ggaacaccta ggcaggtgct cacctgcaa cttcagtctg 1440
gagcttctct tgctccagg gactggccag gtctccccc tttcctgagt accaactatc 1500
atatcccaa agatgactga gtctctgctg tattocatgt atcccaatcc ggtcctgctg 1560
atcaattcca atcccagaca tttctccctg ttctctgatt ttgttggtt ctttcagtcc 1620
taccatatgg ttctaggtcc ctcttacgct atctgcatag cagactatac ctcttctgcc 1680
cgctgacttg cccaataaat aattctgcag agaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1740
aaaaaaaaa aaaaaaaaaa aaaaaagggc ggccgctct 1779

```

<210> 104

<211> 999

<212> DNA

<213> Homo sapiens

<400> 104

```

ggaattcccc ggatgggtcac caacatcagc gtccccaccc aagtcaacat ctcttctgcg 60
atgtctgccca tcctagatgt gaatgaacag ctgcacctct tgtcatcatt cctgtggctg 120
gaaatggttt gggataaccc atttatcagc tggaaccacag aggaatgtga gggcatcacg 180
aagatgagta tggcagccaa gaacctgtgg ctcccagaca ttttcatcat tgaactcatg 240
gatgtggata agaccccaaa aggcctcaca gcatatgtaa gtaatgaagg tcgcatcagg 300
tataagaaac ccatgaaggt ggacagtatc tgtaacctgg acatcttcta ctcccccttc 360
gaccagcaga actgcacact caccttcagc tcattcctct acacagtggg cagcatgttg 420
ctggacatgg agaaagaagt gtgggaaata acagaogcat ccoggaacat ccttcagacc 480
catggagaat gggagctcct gggcctcagc aaggccaccg caaagttgtc caggggaggc 540
aacctgtatg atcagatcgt gttctatgtg gccatcaggc gcaggcccag cctctatgtc 600
ataaaccttc tcgtgcccag tggctttctg gttgccatcg atgccctcag cttctacctg 660
ccagtgaaaa gtgggaatcg tgtccattc aagataacgc tcctgctggg ctacaacgtc 720
ttcctgctca tgatgagtga cttgctcccc accagtggca cccccctcat cgggtgtctac 780
ttcgccctgt gcctgtccct gatggtgggc agcctgctgg agaccatctt catcaccac 840
ctgctgcacg tggccaccac ccagcccca cccctgcctc ggtggctcca ctccctgctg 900

```

ctccactgca acagcccggg gagatgctgt ccactgcgcc ccagaagga aaataagggc 960

ccgggtctca cccccaccca cctgcccggg gaggtgtga 999

<210> 105

<211> 586

<212> PRT

<213> Homo sapiens

<400> 105

Gly Thr Gly Pro Glu Phe Pro Gly Ser Arg Pro Ala Leu Gly Pro Leu
1 5 10 15

Ser Tyr Arg Glu His Arg Val Ala Leu Leu His Leu Thr His Ser Met
20 25 30

Ser Thr Thr Gly Arg Gly Val Thr Phe Thr Ile Asn Cys Ser Gly Phe
35 40 45

Gly Gln His Gly Ala Asp Pro Thr Ala Leu Asn Ser Val Phe Asn Arg
50 55 60

Lys Pro Phe Arg Pro Val Thr Asn Ile Ser Val Pro Thr Gln Val Asn
65 70 75 80

Ile Ser Phe Ala Met Ser Ala Ile Leu Asp Val Asn Glu Gln Leu His
85 90 95

Leu Leu Ser Ser Phe Leu Trp Leu Glu Met Val Trp Asp Asn Pro Phe
100 105 110

Ile Ser Trp Asn Pro Glu Glu Cys Glu Gly Ile Thr Lys Met Ser Met
115 120 125

Ala Ala Lys Asn Leu Trp Leu Pro Asp Ile Phe Ile Ile Glu Leu Met
130 135 140

Asp Val Asp Lys Thr Pro Lys Gly Leu Thr Ala Tyr Val Ser Asn Glu
145 150 155 160

Gly Arg Ile Arg Tyr Lys Lys Pro Met Lys Val Asp Ser Ile Cys Asn
165 170 175

Leu Asp Ile Phe Tyr Phe Pro Phe Asp Gln Gln Asn Cys Thr Leu Thr
180 185 190

Phe Ser Ser Phe Leu Tyr Thr Val Asp Ser Met Leu Leu Asp Met Glu
195 200 205

Lys Glu Val Trp Glu Ile Thr Asp Ala Ser Arg Asn Ile Leu Gln Thr
210 215 220

His Gly Glu Trp Glu Leu Leu Gly Leu Ser Lys Ala Thr Ala Lys Leu
225 230 235 240

Ser Arg Gly Gly Asn Leu Tyr Asp Gln Ile Val Phe Tyr Val Ala Ile
245 250 255

```

Arg Arg Arg Pro Ser Leu Tyr Val Ile Asn Leu Leu Val Pro Ser Gly
      260                      265                      270

Phe Leu Val Ala Ile Asp Ala Leu Ser Phe Tyr Leu Pro Val Lys Ser
      275                      280                      285

Gly Asn Arg Val Pro Phe Lys Ile Thr Leu Leu Leu Gly Tyr Asn Val
      290                      295                      300

Phe Leu Leu Met Met Ser Asp Leu Leu Pro Thr Ser Gly Thr Pro Leu
305                      310                      315                      320

Ile Gly Val Tyr Phe Ala Leu Cys Leu Ser Leu Met Val Gly Ser Leu
      325                      330                      335

Leu Glu Thr Ile Phe Ile Thr His Leu Leu His Val Ala Thr Thr Gln
      340                      345                      350

Pro Pro Pro Leu Pro Arg Trp Leu His Ser Leu Leu Leu His Cys Asn
      355                      360                      365

Ser Pro Gly Arg Cys Cys Pro Thr Ala Pro Gln Lys Glu Asn Lys Gly
      370                      375                      380

Pro Gly Leu Thr Pro Thr His Leu Pro Gly Val Lys Glu Pro Glu Val
385                      390                      395                      400

Ser Ala Gly Gln Met Pro Gly Pro Ala Glu Ala Glu Leu Thr Gly Gly
      405                      410                      415

Ser Glu Trp Thr Arg Ala Gln Arg Glu His Glu Ala Gln Lys Gln His
      420                      425                      430

Ser Val Glu Leu Trp Leu Gln Phe Ser His Ala Met Asp Ala Met Leu
      435                      440                      445

Phe Arg Leu Tyr Leu Leu Phe Met Ala Ser Ser Ile Ile Thr Val Ile
      450                      455                      460

Cys Leu Trp Asn Thr Ala Gly Ala His Leu Pro Thr Ser Val Trp Ser
465                      470                      475                      480

Phe Ser Cys Leu Gln Gly Leu Ala Arg Ser Pro Pro Phe Pro Glu Tyr
      485                      490                      495

Gln Leu Ser Tyr Pro Gln Arg Leu Ser Leu Cys Cys Ile Pro Cys Ile
      500                      505                      510

Pro Ile Arg Ser Cys Ser Ile Pro Ile Pro Asp Ile Ser Pro Cys Ser
      515                      520                      525

Cys Ile Leu Leu Ala Ser Phe Ser Pro Thr Ile Trp Phe Val Pro Leu
530                      535                      540

Thr Ser Ser Ala Gln Thr Ile Pro Leu Leu Pro Ala Asp Leu Pro Asn
545                      550                      555                      560

Lys Phe Cys Arg Glu Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys

```

565

570

575

Lys Lys Lys Lys Lys Lys Arg Ala Ala Ala
 580 585

<210> 106

<211> 332

<212> PRT

<213> Homo sapiens

<400> 106

Gly Ile Pro Gly Met Val Thr Asn Ile Ser Val Pro Thr Gln Val Asn
 1 5 10 15

Ile Ser Phe Ala Met Ser Ala Ile Leu Asp Val Asn Glu Gln Leu His
 20 25 30

Leu Leu Ser Ser Phe Leu Trp Leu Glu Met Val Trp Asp Asn Pro Phe
 35 40 45

Ile Ser Trp Asn Pro Glu Glu Cys Glu Gly Ile Thr Lys Met Ser Met
 50 55 60

Ala Ala Lys Asn Leu Trp Leu Pro Asp Ile Phe Ile Ile Glu Leu Met
 65 70 75 80

Asp Val Asp Lys Thr Pro Lys Gly Leu Thr Ala Tyr Val Ser Asn Glu
 85 90 95

Gly Arg Ile Arg Tyr Lys Lys Pro Met Lys Val Asp Ser Ile Cys Asn
 100 105 110

Leu Asp Ile Phe Tyr Phe Pro Phe Asp Gln Gln Asn Cys Thr Leu Thr
 115 120 125

Phe Ser Ser Phe Leu Tyr Thr Val Asp Ser Met Leu Leu Asp Met Glu
 130 135 140

Lys Glu Val Trp Glu Ile Thr Asp Ala Ser Arg Asn Ile Leu Gln Thr
 145 150 155 160

His Gly Glu Trp Glu Leu Leu Gly Leu Ser Lys Ala Thr Ala Lys Leu
 165 170 175

Ser Arg Gly Gly Asn Leu Tyr Asp Gln Ile Val Phe Tyr Val Ala Ile
 180 185 190

Arg Arg Arg Pro Ser Leu Tyr Val Ile Asn Leu Leu Val Pro Ser Gly
 195 200 205

Phe Leu Val Ala Ile Asp Ala Leu Ser Phe Tyr Leu Pro Val Lys Ser
 210 215 220

Gly Asn Arg Val Pro Phe Lys Ile Thr Leu Leu Leu Gly Tyr Asn Val
 225 230 235 240

Phe Leu Leu Met Met Ser Asp Leu Leu Pro Thr Ser Gly Thr Pro Leu
 245 250 255

Ile Gly Val Tyr Phe Ala Leu Cys Leu Ser Leu Met Val Gly Ser Leu
 260 265 270

Leu Glu Thr Ile Phe Ile Thr His Leu Leu His Val Ala Thr Thr Gln
 275 280 285

Pro Pro Pro Leu Pro Arg Trp Leu His Ser Leu Leu Leu His Cys Asn
 290 295 300

Ser Pro Gly Arg Cys Cys Pro Thr Ala Pro Gln Lys Glu Asn Lys Gly
 305 310 315 320

Pro Gly Leu Thr Pro Thr His Leu Pro Gly Glu Val
 325 330

<210> 107

<211> 485

<212> DNA

<213> Homo sapiens

<400> 107

ctggaaaggt ccacgcgctg gctgaactgc aaccacagct ccaactgagtg ctgcttcttg 60

gcctcgtgtt cccgctgggc ccttgccat tctgagcccc ctgtcagctc tgcctccgca 120

gggcccggca tctgccctgc tgatacctct ggctccttca cacctacaga aagacagaga 180

ctcagccatg ggctgcaaat gtcacctgtg gagggaggga gacaggggaag gaggcaggag 240

cagagaagtg gaggtggggg aagaggaatg tgacttcctt caccgggcag gtgggtgggg 300

ggtgagacct gggcccttat tttccttctg gggcgcagtg ggacagcatc tccccgggct 360

gttgagctgg agcagcaggg agtggagcca ccgaggcagg ggtgggggct ggggtggtggc 420

cacgtgcagc aggtgggtga tgaagatggt ctccagcagg ctgcccacca tcaggacag 480

gcaca 485

<210> 108

<211> 584

<212> DNA

<213> Homo sapiens

<400> 108

cccagcactt tgggaggcca aggtgggtgg atcacttcag ttcaggagtt tgagaccagc 60

ctgggcaaca tgggtgaaacc tcattctctta aaaaaaaaaa aaaaaaaaaa attagccagg 120

cctgggtggtg cgctgtagt cccagctact tgggaggctg aggctgagac aggaggatca 180

tttgagccca ggacatggaa gttgcagtga gctgagagca tgccactcta ctccagcctg 240

ggtgacagag caagatcctg tctcaaaaaa aaaaaaaaaa aaaaaggaga gagagaaact 300

gcgggccctg cctcttgcgt tatctctcct ccagcatgga tgtggataaa accccaaaag 360

00069US1.ST25

gcctcacagc atatgtaagt aatgaaggtc gcatcaggta taaaaaaccc atgaaggggg 420
 acagtatctg taacctggac atcttctact tccccttcga ccagcaaac tgcacactca 480
 ccttcagctc attcctctac acaggtaagt tgcagtgagg tctcagggat ggggtgaatg 540
 agagcaacca acaaatttaa agaaactatg agtaaatggt gacc 584

<210> 109
 <211> 38
 <212> PRT
 <213> Homo sapiens

<400> 109

Cys Leu Ser Leu Met Val Gly Ser Leu Leu Glu Thr Ile Phe Ile Thr
 1 5 10 15

His Leu Leu His Val Ala Thr Thr Gln Pro Pro Pro Leu Pro Arg Trp
 20 25 30

Leu His Ser Leu Leu Leu
 35

<210> 110
 <211> 60
 <212> PRT
 <213> Homo sapiens

<400> 110

Leu Ser Ser Ser Met Asp Val Asp Lys Thr Pro Lys Gly Leu Thr Ala
 1 5 10 15

Tyr Val Ser Asn Glu Gly Arg Ile Arg Tyr Lys Lys Pro Met Lys Gly
 20 25 30

Asp Ser Ile Cys Asn Leu Asp Ile Phe Tyr Phe Pro Phe Asp Gln Gln
 35 40 45

Asn Cys Thr Leu Thr Phe Ser Ser Phe Leu Tyr Thr
 50 55 60

<210> 111
 <211> 30
 <212> DNA
 <213> Artificial

<220>
 <223> Probe/Primer

<400> 111
 tgccagtgaa aagtgggaat cgtgtcccat 30

<210> 112
 <211> 22
 <212> DNA

<213> Artificial

<220>

<223> Probe/Primer

<400> 112

cccagcctct atgtcataaa cc

22

<210> 113

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Probe/Primer

<400> 113

tcatgagcag gaagacgttg

20

<210> 114

<211> 19

<212> DNA

<213> Artificial

<220>

<223> Probe/Primer

<400> 114

gccatcaggc gcaggccaa

19

<210> 115

<211> 23

<212> DNA

<213> Artificial

<220>

<223> Probe/Primer

<400> 115

caagtcattc atcatgagca gga

23

<210> 116

<211> 20

<212> DNA

<213> Artificial

<220>

<223> Probe/Primer

<400> 116

tgccctgtccc tgatggtggg

20

<210> 117

<211> 19

00069US1.ST25

<212> DNA

<213> Artificial

<220>

<223> Probe/Primer

<400> 117

gagcagcagg gagtggagc

19